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AND
OBSTETRICAL JOURNAL

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THE CONSERVATIVE TREATMENT OF THE DISEASED
OVARY.*

BY JOSEPH TABER JOHNSON, WASHINGTON, D. C.

The difference between the radical and conservative treatment of the diseased ovary is somewhat difficult to define, inasmuch as the most radical treatment under some circumstances is really the most conservative. While in other cases to conserve the best interests of some particular diseased ovary requires the most radical surgery. In other words, then, circumstances may present where the most conservative treatment would be the most radical, and *vice versa*.

In the early part of the present decade quite a conservative wavelet swept over the country and considerable harm was done to pelvic and abdominal surgery in the mild and gentle name of conservatism. Incomplete conservative operations were done, some of which had to be completed later on by radical operations.

Some of the men who claimed to be the most conservative, and attracted the timid doctors and frightened patients, were actually removing more ovaries and tubes than many of their so-called radical friends. Much credit has been claimed for saving a part or the whole of one ovary and tube when only a simple catarrhal salpingitis existed, by an operator posing before the profession and community as a conservative, when the surgeon designated a dangerous radical, to be avoided, would actually not have operated at all, and would probably have cured his patients by other means.

In some instances real, genuine, successful, and beneficial conserva-

*Read before the Southern Surgical and Gynæcological Association, at Memphis, Tenn., December 6, 7, and 8, 1898.

tism has been practised with lasting beneficial results, but not always from the highest and purest motives.

Again it is feared that actual radicalism has successfully masqueraded in the name and guise of conservatism, to the injury of the trusting patient, and the discredit of good surgery, but let us hope these instances have been few and far between.

With the wonderful improvements in abdominal surgery within this generation, more and more has been learned in regard to the toleration of the peritonæum.

Former fears of opening and manipulating within its cavity have well nigh disappeared, so that now the chief objection in the minds of many to an abdominal section has come to be not so much from what is done within the abdominal cavity, but as to how it is to be closed, when the operation is finished, so as to prevent the occurrence of ventral hernia. Thomas Addis Emmet said two decades ago that the danger in abdominal surgery was not so much from what was taken out of the peritonæal cavity, as from that which was introduced into it during an operation.

But nowadays, instead of spending valuable time in sponging out every drop of blood or other fluids, or putting in a drainage-tube, we frequently flood the cavity with quarts of the normal salt solution, thus diluting and spreading the residual fluids over a greater area of absorbing surface, warming up the somewhat cooled abdominal viscera, floating the intestines away from any overlooked raw surfaces, and at the same time performing an actual transfusion.

So much has been learned by accumulating experiences as the domain of the gynæcologist has undergone so much "expansion," to borrow a term which has acquired a new significance in the recent history of our country, that real conservatism is gradually gaining ground over real radicalism, to such an extent that he who presents ovaries and tubes or a fibroid uterus in a modern, up-to-date medical society has to state very good reasons why he sacrificed these important organs in their entirety to escape criticism and, possibly, censure.

Craniotomy has been almost entirely displaced by the more scientific, humane, and conservative, improved Cæsarean section. This was not the case as long as it could be said that a successful Cæsarean section had not been performed in the great lying-in hospital in Vienna for a period of one hundred years. When the accumulated evidence proved the conservative operation showed better and more humane results, the more radical and sacrificial operation was relegated to the

back seat of necessity, while the Cæsarean section became the operation of election.

Not fifty years ago the mortality attending the removal of fibroid tumors of the uterus was so great that few operators attempted its performance. At the present time, however, it is most gratifying to be able to state that in the gradual evolution of supravaginal and pan-hysterectomy the former frightful mortality has been reduced in good hands, and in a surgically clean environment, to the same, or even better, average results than its sister operation of ovariectomy.

And yet the more conservative surgical procedure known as myomectomy we are now declaring is the ideal operation of the future. By one method the uterus and ovaries are sacrificed, the woman goes through life "a mutilated and blighted being," thinking that she has paid a great price for her life and freedom from the pains and hæmorrhages produced by her tumor.

By the more conservative method she is also freed from the burdens of her tumor, but at the same time she rejoices in the possession of her essential female organs. She has not actually undergone any mutilation, nothing has been removed which makes her different from other women. The tumor is gone, and that is all, unless some other part was so diseased as to require removal also. Since Battey suggested normal ovariectomy for the relief of many of the uncontrollable nervous and painful symptoms accompanying the menstrual molemen in 1872, and Lawson Tait in the same year the removal of the uterine appendages for chronic inflammatory and suppurative diseases of those organs, and Heger, in Germany, about the same time recommended the complete removal of the ovaries and tubes for arresting the growth and hæmorrhages of fibroid tumors of the uterus, many of these important and special organs of sex in the female have been sacrificed, which accumulating experience and the improvements in abdominal surgery now make it possible to save. For a score of years Battey, Heger, and Tait set the pace in three of the greatest countries of the globe. Radical operations were the rule. So great was the fear of opening the abdomen that, when it had been once opened for the removal of an ovarian tumor and the appendages on one side, the other ovary was too often removed also, if it showed any signs of being even slightly diseased, and in not a few instances the only reason given for its sacrifice was that it might some day become diseased, and had, therefore, better come out while the opportunity afforded without increasing materially the danger or expense of the patient.

In this field I am proud and happy to say that sacrificial surgery is

gradually giving way to more conservative and humane methods. I believe there is a maxim in general surgery in favor of saving every inch of the human body possible, and another, that it requires a higher order of skill to save a mutilated or diseased member than it does to cut off or to cut it out.

With my present experience in abdominal surgery I am free to confess that I can now save ovaries and tubes which I formerly thought it necessary to totally remove. The increasing skill of our abdominal surgeons and their accumulated experiences in actual conservative work go to show that we are approaching nearer to that true conservatism which is the offspring of increased skill and experience, and is not that kind of clap-trap conservatism which has been paraded as a byplay to the galleries, and publicly used as a means of attracting practice and increasing profits.

It is just as true in abdominal surgery, if not more true, that it requires a higher order of skill and a greater experience to save an organ, or part of an organ, than it does to remove it. This point is illustrated by a recent experience of my own.

In operating for the relief of a retroverted and bound-down uterus, accompanied by a prolapsed and adherent ovary, it was found, after separating all the adhesions, that a cyst about the size of a marble had been ruptured in the adherent ovary; when it was brought into view it was found to be lacerated, and oozing from its cyst-cavity came a sanguinolent fluid. Formerly I would have removed that ovary, but with an accumulated experience with the toleration of the peritonæum to clean manipulation and careful instrumentation, I drew the bleeding organ up into the abdominal opening, surrounded it with gauze, scraped and cleaned out the cyst-cavity, which occupied fully one-third of the ovary, and carefully stitched its edges together with fine silk. The uterus was then suspended by two silk sutures to the peritonæal surface of the abdominal wall, and the abdomen closed. I had no fear this time of the result. The first time I did such an operation I did fear a very great deal, but I felt a confidence in this case which was born of accumulated experience. I felt sure she would get well, and she did, without a rise in her pulse or temperature above 100 after the first day. From being a terrible sufferer during her monthly periods, she had no pain in the first menstruation after the operation. Isn't this better than to have removed this ovary in a marriageable young woman, only 22 years of age? To save it required more time, more fine work, and more technical skill, but saving is better than sacrificing when the conditions are favorable. Especially is it important to save a portion of

one ovary, when the other has been removed on account of a tumor or an abscess, or for any other cause.

The disagreeable symptoms accompanying the artificial and premature change of life are often stormy and protracted, in some rare instances threatening, if not resulting in, actual insanity. They are nappily prevented by saving one or a portion of one ovary. Menstruation is generally not interrupted, and the sexual and other feelings of the patient undergo none of those sudden and peculiar revulsions which, unfortunately, sometimes follow the total removal of both ovaries and tubes.

Goodell of Philadelphia and Polk of New York were among the pioneers in this work, but at the time of their first emphatic utterances the profession was not ready to accept their teachings or to believe in their practice. Some of their overzealous, too enthusiastic, and less skilful followers did actual harm by incomplete and badly executed operations, requiring the most radical kind of sacrificial surgery occasionally to save lives improperly jeopardized through a mistaken conception of conservatism. Dr. A. Palmer Dudley of New York reported a brilliant series of 103 conservative operations upon the uterine appendages, without a death, at the last meeting of the American Gynæcological Society. His paper was very favorably discussed by Drs. Kelly, Gill Wylie, Mann, and others, who had done similar and other conservative work within the peritonæal cavity.

Dr. Dudley did not hesitate to cut away the diseased portion of the tube and stitch the healthy end to the healthy ovary, with good results following.

In other cases the remaining portion of the tube was irrigated with an antiseptic fluid and stitched to the ovary.

And still other cases where one ovary and tube had been removed on account of the presence of a tumor or an abscess, and the other ovary and tube found somewhat involved, the diseased portions have been resected, and the healthy portions stitched together, with perfect recovery. Pregnancy subsequently occurred in several such cases. As a result of the increasing conservative treatment of the diseased ovary, we may save many of our patients from the premature occurrence of the menopause, with all that that implies.

Many patients would consent to operative procedures rendered advisable by their unfortunate conditions, if they could be assured that they would not be "unsexed," as they call it.

While menstruation is looked upon by most women as a curse, or a

great inconvenience at least, very few welcome its disappearance with any degree of pleasure.

It is believed to be the beginning of old age, which is so much dreaded, and, while they may not desire more children, the feeling that they have been made "so different from other women" by the complete removal of both ovaries and tubes, carries with it an indescribable, and often undefinable, feeling of abhorrence.

Of course, what patients all want is restored health, and, if the sacrifice of their organs of sex is necessary to the accomplishment of this much-desired object, they will, in a large majority of cases, consent to follow the advice of their trusted medical and surgical advisers.

If our growing experiences in the abdominal cavity and the accumulation of evidence continues to grow in favor of more conservative and less sacrificial operative work, I feel sure that the deep debts of gratitude now felt toward abdominal surgeons by suffering women will be tenfold increased and intensified.

In cases where both appendages have been removed, Dr. Sherwood-Dunn, in an interesting paper, has shown that many of the disagreeable symptoms accompanying the enforced change of life may be greatly mitigated, if not altogether prevented, by the use of the ovarian extract. I have had no experience with this remedy, but there seems good reason to hope that considerable good may be accomplished by its more general use, if a good article can surely be obtained.

In still another class of cases conservative work upon the diseased ovary has resulted in life-saving operations at the time, and in many more instances than expected, symptomatic, practical, and permanent cures have been effected.

I refer to those tubo-ovarian abscesses where, from the low condition of the patient, and the low position of the abscess, and from her history and general appearance, it is apparent that a prolonged and difficult operation confronts the surgeon, if done through the abdomen.

If he insists, in accordance with his own or in imitation of any one's iron-clad rules, upon entering the abdomen from above in all cases, separating firm and numerous adhesions to intestines and other viscera in the bad cases until he reaches the pus-cavity, and goes through with the usual technique so sadly familiar to us all, he runs many more chances, in my opinion, of operating his patient to death, than as if he had made a simple, conservative vaginal section, removed nothing but the offending and life-destroying pus, irrigated and drained the pus-sac, and put her back in bed in ten minutes, without shock and without hæmorrhage.

REMEDIAL TREATMENT OF CYSTITIS IN THE FEMALE.*

BY J. H. ETHERIDGE, M.D., CHICAGO.

To me has been assigned the subject of remedies to be used in treating cystitis. This excludes surgery. The list of remedial agents used in treating cystitis in the past is very large. I shall mention only the most approved remedies used to-day. They comprise a small number. So much of the modern treatment of this disorder is purely surgical it leaves a much more restricted field for therapeutical exploits than existed a quarter of a century ago.

The treatment of cystitis is conveniently subdivided into,

I. Constitutional.

II. Local.

I. The constitutional treatment consists chiefly of the use of remedies to increase the functions of the alimentary canal and of the skin, of the use of agents whose action so changes the character of the urine that it shall be unirritating to the diseased organs, and of medicines that can relieve pain and vesical tenesmus. Diet also falls under this heading.

A soluble condition of the bowels should be maintained daily by salines, taken on the empty stomach before breakfast. It is of prime importance to bear in mind that a glass of hot water taken immediately after the saline will energise the latter wonderfully, so that a diminished quantity of the drug will suffice. For example: A glass of hot water will make one-half or even one-third of a dose of Hunyadi water that will move the bowels, effective and satisfactory. Whether increased alvine dejections take away from the renal secretion any agents that irritate the inflamed bladder or not, I cannot affirm. It is a matter of therapeutic experience that free daily bowel movements contribute to relieve the sufferings of an inflamed bladder. Diversion of the blood-current towards the intestinal canal under saline laxatives tends to diminish the amount of blood in the walls of the bladder. Very early in my practice, I recall two cases of hypercatharsis, in women with cystitis, one from physic and the other from a poisoned food product, wherein recovery in one, and great temporary relief in the other case followed.

An inactive, dry skin should be treated with salt, crash towel rub-

* Read before the Chicago Gynecological Society, November 19, 1898.

blings, daily. Inviting the blood to the surface by this means relieves measurably internal congestions and increases the cutaneous functions, thus removing from the urine, or at least, modifying possible objectionable ingredients of the kidney secretion.

Deranged systemic conditions, such as the indigestions, gout, rheumatism, the grippe, and especially the exanthemata, should be carefully considered, and, if possible, remedied.

The diet of cystitis patients should be carefully regulated. Milk is the most universally used agent. Under an exclusive diet of milk, some cases of great severity and long standing have been cured. The bill of fare should consist largely of fluid food as milk, broths, yolk of eggs, beef essence, etc.

For the relief of pain and tenesmus, analgesics are demanded. Opium is the supreme agent for the relief of vesical suffering. It can be used as Dover's powder with camphor. It can also be used in rectal suppositories. It has its drawbacks most decidedly, in the way of deranging the secretions and excretions. Its chief objection is the induction of the opium habit. Other agents as chloral hydrate and the bromides very often bring relief from pain. They are without the objections of the opium. All analgesics should be withheld as soon as the indications for their use subside. Here is one of the spots in a doctor's life where he should take great pains to guard against permitting the opium habit to become established.

The indications for the medical treatment lie chiefly in the reaction of the urine. If the urine is too acid—or very acid, it should be alkalinized. If it be alkaline, we must give remedies to change such reaction. We can give remedies by the stomach that accomplish these ends. Besides using remedies that change the reaction of the urine, we can give remedies by the stomach that are germicidal agents and act as such in the urine.

The treatment of all cases of cystitis involves two classes of remedies—those for use by way of the stomach and those for use in the bladder.

The acid reaction of the urine depends, in the majority of cases, on the sodium phosphate. Alkaline remedies correct hyperacidity. An embarrassment of alkaline agents confronts us in making a selection. The granular effervescent salts of lithium—the carbonate or the citrate—are a very eligible and agreeable agent. The citrate of potassium in twenty to thirty grain doses, three or four times a day is one of the most efficient agents in neutralizing the hyperacidity of the urine. Whatever agent is used, it should be accompanied by as free drinking of

water as the stomach will bear. An agreeable manner of inducing many patients to take quantities of water is to flavor it with some fruit acid given not at the time an alkali is taken. Fruit acids are converted into alkaline carbonates in the blood and act as diuretics.

At this point we can mention the great benefit of the administration of large quantities of water by the stomach for diluting the urine. Water, hot or cold, should be given several times a day. Demulcents, like slippery elm, or flax-seed, can be given in water acidulated with lemon or orange juice. They are favorite, old-time adjuvants.

The alkaline reaction of the urine can usually be changed by remedies internally, which are few in number. The most universally used agent is benzoic acid or its derivatives. Boric acid changes the alkaline reaction only in a small way compared to benzoic acid. The mineral acids in very large doses will accomplish the same end.

The best medicines for changing the reactions of urine have now been mentioned. Their use must be attended with sufficient watchfulness to guard against gastric rebellion.

The second subdivision of the remedies used internally in cystitis is the class called germicidal agents. Their name is legion. Many of them have been used for generations. Chemistry has introduced almost scores of new ones of late years that are begging for recognition patiently. The urine of patients with cystitis is notoriously the abiding place of micro-organisms. To illustrate: Kastalskaya examined twelve cases of cystitis and found in them, bacterium coli immobile, streptococcus pyogenes, pseudobacterium coli commune, pseudostaphylococcus albus, bacillus fœtidus liquefaciens, tubercle bacilli, and non-pathogenic cocci. These cases were all non-specific cases of cystitis.

The older germicidal remedies include creosote, used especially where tubercle bacilli are found, cubebs, copaiba, oil of sandal wood, tar water, uva ursi, buchu, sodium salicylate, pareira brava, and the sulphocarbolates. Under this division come the balsams and the terebinthines. These remedies are all old but they are reliable.

We now come to the consideration of the most important remedies. They are for local use in the bladder. They are generally used through the catheter. Haggard says that unclean catheterization must stand the impeached sponsor for the majority of cases of cystitis in the female. Bearing this in mind, we are prepared to declare most dogmatically that the careless use of the catheter can create vesical mischief as rapidly as our remedies can annihilate it. Therefore, it goes without saying that the non-aseptic use of the catheter in vesical medication is wholly without excuse. Without going into directions for using the

catheter, we may dispose of this part of our subject by saying that the hands and the catheter must be as surgically clean as though they were to be used in the abdominal cavity. In introducing the catheter, pain can be avoided, if the urethra be uncommonly tender, by using a four per cent. solution of cocaine.

Before using medicines in the bladder, we must wash out this viscus. The normal sterilized salt solution (a drachm to the quart) or a saturated solution of boric acid can be used. I use the latter wholly. The injection must be small in amount, usually an ounce or two in severe cases and given slowly. Sudden distention of the bladder walls by giving a large amount of solution quickly is prodigiously painful and not without danger. We can wash it out three or four times before using the medicine.

The selection of the remedy for intravesical application depends somewhat on what the urinalysis reveals. In all cases of simple cystitis, the sovereign remedy is silver nitrate one-tenth to one-half per cent. In obstinate cases, this is one of the most reliable agents in strong solution, say twenty grains to the ounce. Of this five or ten drops only are used. The smallest amount should be used at first, larger ones later. Its use is not very painful—only exceptionally is it so. One to three or four drachms can be used. At first, it can be used once in two days, later, daily, till its further use can be discontinued. Simultaneously with its use, needed remedies by the stomach must be given for acting on the urine.

Where there is ulceration or suppuration, we can use carbolic acid, a drop to the drachm, in the bladder. Where the urine is loaded with mucus and pus, a remedy of very great value is tannin, ten grains to the ounce. In like manner, we can use sulphate of zinc and plumbic acetate. Infusion of *hydrastis canadensis*, a solution of potassium chlorate or of ferric perchloride have been found useful also. Very many other remedies have been used within the bladder. I have mentioned the most important ones. Opiates and other analgesics should not be used in the bladder chiefly because the bladder mucous membrane is not an absorbing surface and they do not relieve pain. When vesical injections cause much pain, it should be relieved by a hypodermic injection of morphia.

To recapitulate somewhat: After a spectroscopic examination of the bladder has decided that no surgery is needed and that internal remedies and local treatment are all the case demands, we should make a urinalysis to determine whether medicines for an acid or an alkaline reaction are to be used. At the same time, we should decide what

remedies are necessary to correct disorders of the digestion. The skin and pulmonary mucous membranes should also be considered. We must, at the same time, decide upon the use or the avoidance of analgesics. Demulcents and large draughts of water should also be ordered.

The local treatment of the bladder should be performed with complete antiseptic precautions. The first thing to be done should be to wash out the bladder as completely as possible with saline solution or with a saturated solution of boric acid. In the majority of cases of cystitis, this line of daily treatment is sufficient. When no improvement occurs in ten or fourteen days, the mild solution of the silver nitrate can be used with every expectation of a successful issue. Many physicians use this agent to begin with, claiming that since silver nitrate is the chief of all remedies for inflammation of mucous membranes, we gain days of time by commencing all treatment of cystitis by using it. Such a claim sounds well and it seldom disappoints us. Cases that resist all local and general treatment combined fall under the surgeon's hand.

CHEMICAL AND MICROSCOPIC EXAMINATION OF THE URINE, WITH SPECIAL REFERENCE TO THE DIAGNOSIS OF CYSTITIS.*

BY J. A. WESENER, M.D., CHICAGO.

I find, in looking through the literature in the short time allotted me, that very little has been done on the microscopic and chemical examination of the urine in cases of cystitis. It is true that we are told to differentiate cystitis from pyelitis by the character of the epithelium present. This procedure is not positive in itself. There is not much difference between the epithelium of the bladder and that of the pelvis of the kidney. Under the influence of inflammation cells lose their physical characteristics until, in a short time, it is absolutely impossible to differentiate the epithelium from these two conditions.

In the case of females, in whom cystitis is suspected, the urine should be obtained by the catheter; this rule, if followed, will avoid the possibilities of contamination from the vagina. Normal urine always contains a few leucocytes, which may be increased by irritants of a chemical nature. A strongly acid and concentrated urine usually contains an increase of these cells. This fact alone makes it often a very

* Read before the Chicago Gynæcological Society, November 19, 1898.

difficult problem for the analyst to differentiate an increase of leucocytes from a beginning cystitis. In the first condition, we do not find bacteria, as a rule, in the freshly voided urine; whereas, in the second case, bacteria are always present. I will say further, that an increase of leucocytes in the male indicates either an inflammation of the deep urethra or its glands, or is a cystitis or a pyelitis. If the urethra or its glands is its origin, the pus will probably be in clumps. If the subject be a female, we must exclude the vagina. Pus from the urethra in the latter case, except there be a cystitis, is very rare. Cystic urine may be either acid or alkaline. If the infection is by the bacillus coli, it is acid; if in addition it becomes infected with the bacillus vulgaris, it becomes alkaline. This last organism converts urea into ammonium carbonate. Of 300 specimens of cystic urine examined, 69 per cent. were acid and 21 per cent. were alkaline. Of the alkaline urine found, decomposition probably took place in some after voiding.

From these facts the reaction of the urine no doubt depends on the character of the bacteria present. The works of Rostoski, Krogins, and Mueller justify the above assertion. Johannes Mueller found cystitic urine acid in 73 per cent. of all cases examined by him. Melchoir also showed from an analysis of 62 cases that ammoniacal decomposition is only a subordinate circumstance in cystitis, depending solely on the microbe present. The most important of these is proteus vulgaris. It grows readily in gelatin and albumin, has a putrefactive odor and changes the proteid matter to ammonia. This organism is not found often in cystitis. Schnitzler found in his work that the urine, as a rule, was alkaline, but this alkalinity (his cases being largely females) was probably caused by contamination from uterine disorders. Rostoski, Huber, Melchoir, Krogins, and Barlowe found that the bacillus coli was the most frequent inciter in 120 cases collected. Bacillus proteus vulgaris was found 11 times. Bacillus typhosus, streptococcus, and micrococcus, including the gonococcus, 3 times. The diplococcus urea liquifaciens, 14 times. In most all of these cases, excepting when the proteus vulgaris was found, the urine was acid. The bacillus coli always gave an acid urine in all the cases examined by Rostoski. He found that the urine collected in sterilized test-tubes and kept for observation at 37° C. for one to one and one-half months always remained acid when the infection was due to the bacillus coli.

Two tests are employed for the detection of pus and leucocytes in the urine. The chemical one, recommended by Vitali, is applied as follows: The suspected urine, if alkaline, is treated with enough acetic acid to make slightly acid; filter and add to the residue a few drops of

freshly prepared tincture of guaiacum. If pus be present, the inner surface of the filter takes on a blue tint. I have found this test to be very satisfactory, even when there was only a trace of pus present. With the microscope pus-cells are readily detected; sometimes, however, it is necessary to stain these cells with an iodine-potassium iodide solution, in order to differentiate them from degenerated epithelial cells. If the urine is alkaline, the pus-cells swell up, become glossy and homogeneous and their nuclei disappear; but this can all be corrected by the addition of acetic acid.

To differentiate cystitis from pyelitis, I would proceed as follows: In cystitis there is always more pus than in pyelitis, and for this reason we find kidney epithelium more readily in pyelitis because of the smaller amount of pus present. After centrifuging the urine, it should be tested for the amount of albumin it contains. In cystitis we find it absent or present, depending on the amount of pus; whereas, in pyelitis, we always find a considerable quantity of albumin. The explanation for this difference is due to the fact that the kidney is a much more vascular organ than the bladder, therefore exudation takes place more easily. Red blood-cells are found more frequently in pyelitis than in cystitis. The above statement about the difference in the albumin applies to this also. Furthermore, in pyelitis, casts are often found. Clinically, we might succeed in distinguishing these two conditions by washing out the bladder with sterilized water immediately after urination: examine the urine collected, and also the washings, for pus. If the water contains a considerable amount of pus, it is probably cystitis. You will not examine many specimens of urine microscopically before you will find that a comparatively small number of the cells found are leucocytes. Most of them are large cells, some of which are macrophages derived from the mesoblastic structures and other indifferent epithelial cells.

INSTRUMENTAL EXAMINATION OF THE BLADDER.*

BY WILLIAM T. BELFIELD, M.D., CHICAGO.

Twenty years ago cystitis was a clinical entity marked by the three classical symptoms, frequent and painful urination, and pus in the urine. To-day it clinically has receded from the rank of an entity to that of a symptom, like jaundice and œdema. The symptoms, frequent and painful urination and pus in the urine, are now known to be caused, not merely by inflammation of the bladder as a whole, but also by infections, by injuries to certain limited parts of the bladder; and are also found to be present when the bladder in part or in whole is entirely healthy; they may be caused by stricture of the ureter; by morbid conditions of the pelvis of the kidney, and in the male by inflammation of the seminal vesicles. The reason why cystitis has thus receded from the rank of an entity to that of a symptom has been well set forth by the admirable paper of Dr. Senn, namely, that cystitis is always to be considered in the nature of a bacterial infection, and that the normal bladder is not susceptible to bacterial infection. Twenty years ago the conditions recognized as causing cystitis were stricture, enlarged prostate (in the male) and foreign bodies in the bladder encrusted with urinary salts; and at that time the only instrument for the examination of the bladder was the sound. Since that time much advance has been made in our knowledge of cystitis through improvement in means for mechanical examination of the bladder. In 1883 Sir Henry Thompson published a book entitled "Digital Exploration of the Bladder," in which he gave the results of such explorations of this viscus, and recommended the measure as a general method for diagnosis of cystic complaints. It is interesting to note, that as the result of two years' experience, Sir Henry Thompson recorded some thirty-odd cases of tumors of the bladder which had come under his personal observation and upon which he operated, tumors that had been detected by digital exploration of the bladder; whereas, in the very admirable monograph of Dr. Alexander Stein, of New York, on tumors of the bladder, published in 1881, two years prior to Sir Henry Thompson's work, he was able to collect only about a score of cases of tumors of the bladder from all the literature, both post-mortem as well as ante-

* Read before the Chicago Gynæcological Society, November 19, 1898.

mortem. Sir Henry Thompson's procedure gave information as to tumors of the bladder and certain scaly incrustations of the bladder wall which he said were of frequent occurrence, but which he was unable to explain. Meanwhile, Leiter and Nitze had applied electricity to the illumination of the bladder by means of the cystoscope; which instruments, however interesting from a purely scientific standpoint, were found to be worthless for a clinical purpose. But the subsequent substitution of a vacuum lamp for the platinum wire in the original instrument, made the cystoscope a most useful means for examining the bladder.

Since 1887, some eleven years, the cystscope has practically created cystology. Let me briefly mention some of its revelations: first, as to the existence of stone in the bladder; while the sound has been used for centuries for detecting vesical calculus or any other foreign body encrusted with urinary salts; yet every surgeon had known that there are stones in the bladder that escape detection by the sound. The cystoscope affords means for inspecting the entire wall of the bladder, and somewhere in that wall will be located a part, at least, of the stone. A few years ago a physician in Wisconsin, brought to me an old gentleman who had the ordinary symptoms of chronic cystitis, and likewise symptoms that were strongly indicative of stone in the bladder. He had had the advisability of castration strongly urged upon him, but fortunately refused. The sound failed to detect a stone. The cystoscope at once revealed one near the protruding part of the prostate just above the urethral orifice. Even under chloroform at the time of operation, I could not touch that stone with a sound.

These are cases of cystitis in the male, but they are apropos, because they show in this respect the extreme value of the cystoscope, and, furthermore, that the recommendation of castration for prostatic hypertrophy should not precede an incision into the bladder. It is known to many of you that a surgeon in an eastern hospital was unfortunately led to castrate a man for supposed prostatic enlargement, without relief; a country physician subsequently discovered a stone and removed it.

There is one class of cases in which the cystoscope has been a great advance over the sound, and that is in the matter of tumors of the bladder. It has, in a large measure, supplanted Sir Henry Thompson's cutting operation for digital exploration of the bladder, not simply because it avoids operation, but because it gives a better opportunity for inspection and exploration of the bladder than can be secured by any finger through a perineal incision. Sir Henry Thompson's method of

digital exploration, a great advance as it was sixteen years ago, has been entirely supplanted now by the cystoscope.

Then there are morbid conditions of the bladder which were almost unsuspected until the cystoscope came into use; prominent among them is the non-tuberculous ulcer of the bladder, a condition which was formerly not recognized in text-books. Those ulcers are frequently encrusted with phosphates, forming the adherent scales mentioned by Thompson. The non-specific ulcer of the bladder is not rare. I had in the Presbyterian Hospital, a case in which two large non-specific ulcers were present, covered with white urinary salts, so that they looked like two masses of snow against the bladder wall.

Tuberculous ulcers of the bladder do not usually come under inspection by the cystoscope, because they are not primary, and not only is the cystitis overshadowed by other lesions, but the condition of the bladder and tenderness at the vesical neck are such that nearly all instrumentation is impossible. Then, there are morbid conditions directly at the vesical orifice, and not the least numerous among these is fissure of the vesical neck. That is a condition which, I am sure, exists with reasonable frequency, and it seems to me it is that condition which explains to some extent the very familiar clinical observation that cases of so-called cystitis in women are so often cured by simply dilatation of the urethra. The effect of the dilatation upon the fissure at the vesical neck is unquestionably the same as the effect of dilatation of the sphincter in cases of fissure of the anus.

Another morbid condition revealed by the cystoscope is piles or hemorrhoids of the bladder, sometimes bleeding profusely. Then there are cases in which the classical symptoms of cystitis are very pronounced, and yet the cystoscope will show that the interior of the bladder is devoid of morbid conditions.

The value of the cystoscope in diseases of the kidney and of the ureter is almost as great as in the bladder; but these are not now under discussion.

One other instrument should be mentioned, the endoscope, used in the diagnosis and treatment of cystic disease long before the present cystoscope came into use. In its latest form it is only an imperfect substitute for the cystoscope.

INSTRUMENTAL EXAMINATION OF THE BLADDER IN
THE DIAGNOSIS OF CYSTITIS IN THE FEMALE.*

BY M. L. HARRIS, M.D.,

Professor of Surgery, Chicago Polyclinic.

My remarks will be confined entirely to instrumentation of the bladder as bearing upon diagnosis and will be still further limited to a consideration of my own instrument, namely, the urine segregator. This instrument, as you are all aware, collects the urine directly from each kidney separately.

It is well known that a correct diagnosis of cystitis is not always easy to make. A patient may have all the subjective symptoms of a severe cystitis without the bladder being involved at all in the pathologic process. We may even add to the subjective symptoms of pain, frequent urination, etc., the presence of pus in the urine, as well as decomposed or ammoniacal urine, and still find the real pathologic process remote from the bladder.

It is absolutely necessary to a correct diagnosis of cystitis that we know the abnormal constituents or properties of the urine have their origin within the bladder itself. Normal urine suffers no change in a normal bladder free from microbes, hence a comparison of analyses of urine taken from the bladder with urine taken directly from the kidneys will at once indicate the correct location of the disease.

The value of this instrument then depends not only upon the fact that by its use we are enabled to separate the urine from the one kidney from that of the other, but also from the fact that we temporarily, as it were, eliminate the bladder from the urinary tract.

That we can do this I have repeatedly demonstrated, as have many others who have used the instrument. As the instrument is essentially a urine-collector, our deductions must depend entirely upon the results shown by the analyses of the urines collected.

In every case presenting bladder symptoms, before the introduction of the instrument the urine within the bladder should be carefully drawn into a clean receptacle. The bladder is then cleansed by irrigation, the instrument introduced and fixed in position. The little pockets are now once more irrigated by a gentle stream of sterilized water.

* Read before the Chicago Gynæcological Society, November 19, 1898.

when the urine is collected just as it escapes from the ureters, without contamination with vesical products.

The points particularly to be observed in the analyses are:

1. The reaction.
2. The presence or absence of pathologic products, namely, pus, blood, epithelial cells, bacteria, crystals, etc.

The reaction of the urine should be taken at once, as secondary changes occur sometimes quite rapidly.

If urine taken directly from the kidneys possess a normal degree of acidity while that from the bladder be alkaline, it is very evident that the pathologic process producing the alkalinity must reside within the bladder. If urine from the kidneys be free from pathologic products while that from the bladder contain pus, epithelium, bacteria, etc., the involvement of the bladder is unquestioned.

In the short time at our disposal these points may perhaps best be emphasized by a concrete example. Only such facts as pertain to the subject under discussion will be mentioned.

Mrs. M. presented subjective symptoms of cystitis—vesical irritation, painful and frequent urination. The urine as it came from the bladder was alkaline and contained pus with triple phosphate crystals. Certainly here was apparently every symptom of a cystitis, but the use of the instrument showed: Urine from right kidney acid in reaction, clear, no pus, few octohedral oxalate of lime crystals. Urine from left kidney strongly alkaline, cloudy, contained pus, and numerous large triple-phosphate crystals. Diagnosis, pyelitis of left kidney instead of cystitis.

Mrs. S. had suffered intensely with vesical symptoms for a year and a half. She had had the bladder inspected and irrigated, the urethra dilated, and applications made to the interior of the bladder repeatedly, without relief. Use of instrument showed normal acid urine from left kidney. No urine whatsoever from right kidney. Urine drawn from the bladder just before introducing the instrument was slightly acid in reaction, and pale, milky in color. Contained numerous pus-cells, singly and grouped in masses, scattered throughout which were beautiful chains of streptococci. These facts, in connection with others, and the history, enabled us to conclude that the vesical symptoms were primarily irradiation symptoms due to the diseased right kidney, while the cystitis which was undoubtedly present at the time of the examination was a secondary affair due to an infection of the bladder with the streptococcus by the treatment of a supposed cystitis which did not exist. These two cases are excellent illustrations of the value

of this instrument in the differential diagnosis of cystitis. In every case of cystitis of any considerable extent the urine is modified in its constituents to some degree by reason of the changes in the bladder. The great trouble heretofore has been our inability to definitely locate the origin of the abnormal constituents found in the urine in the bladder itself. We have been unable to say, at times, whether the pus, for instance, had its origin in the bladder or the kidney. By being able to temporarily eliminate the bladder from the urinary tract we may now assign these abnormal constituents to their proper source.

We are able to say whether the case be one of bladder disease or one of kidney disease, or whether both organs are involved and the extent of involvement of each. Simple, uncomplicated inflammation of the bladder is a condition of great rarity. We depend upon the urinalysis—chemic, microscopic, and bacteriologic—together with certain ætiologic factors, to determine the variety and cause of the changes in the bladder.

This instrument does not displace the cystoscope and vesical speculum, as these instruments have a very valuable application.

Each, however, has its limitations. The urine segregator possesses the following advantages.

1. It collects the urine so that it may be analyzed.
 2. It does this without entering the ureters, thus obviating the danger of infecting the kidneys.
 3. It not only enables us to differentiate bladder from kidney disease, but to determine the exact condition and functional capacity of each kidney, which is so essential in all diseases of the urinary tract.
 4. Its use is so simple that extraordinary skill is not required.
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SURGICAL TREATMENT OF CYSTITIS IN THE FEMALE.*

BY ALEXANDER HUGH FERGUSON, M.D., CHICAGO.

The subject of cystitis has been presented to-night from its ætiological, pathological, diastnostic, and medical sides, and yet the patient is still uncured. Cases of cystitis in the female eventually come to the surgeon. However hard it is for the bladder to become inflamed, when it is once inflamed it is obstinately so, and remains in that condition, troubling the patient very frequently in spite of internal medication and local douching.

The chronic cystitis to which I shall refer demands surgical treatment. If we have to deal with a female, the procedure is somewhat different from what we would pursue in the male. In cases of cystitis in the female local applications on well-known principles can be made through the cystoscope and curettage of ulcers performed. The application of nitrate-of-silver stick and all the various topical applications and caustics can be made to the inflamed areas and ulcers alone inside of the bladder without cauterization of normal mucous membrane.

As to the operation of suprapubic cystotomy in the female, although it has been done and there may be some cases calling for it, still I do not see that we can gain much benefit by drainage suprapubically any more than by temporary catheter-drainage through the female urethra. Colpocystotomy, as was practised in the female, needs only to be mentioned to be condemned. It is now obsolete. More surgical and rational procedures have taken its place. It does not cure nor facilitate the proper treatment of the inflamed, ulcerated, or diseased portions of the bladder. If rest and permanent drainage are deemed best, then suprapubic cystotomy would meet the indications, without causing the discomforts of a vaginal fistula, nor demanding subsequent operations. Draining the bladder into the vagina causes great discomfort by the discharge of urine through that passage, and it necessitates a subsequent operation to cure the vesico-vaginal fistula, which is undesirable. I only did this operation once in my own practice, and I always regretted it because I had to do three operations subsequently upon the vesico-vaginal fistula before it was closed and the cystitis was not cured. A careful examination ought to be made of the uterus and tubes. The examination

* Read before the Chicago Gynæcological Society, November 19, 1898.

of the kidneys has been thoroughly pointed out. Attention ought to be paid to them sometimes before the bladder is treated, sometimes after by a nephrotomy or a nephrectomy. If there is a tubercular condition of the kidney, it had better be treated surgically before the secondary condition of the bladder is treated, because destructive extension to different parts of the kidney is much more dangerous than extension of the tubercular disease in the bladder, which can be treated secondarily. The male presenting himself with chronic cystitis, we have the selection of a number of procedures. If there be serious stricture or stone, this ought to be rectified, and in doing so the bladder can be drained at the same time through the perinæum. It is unnecessary to mention the manner in which these operations are performed. I will simply mention that the perinæal route and the suprapubic route, and sometimes the combined operation, are the procedures which are carried out in the surgical treatment of chronic cystitis. The perinæal route has its advantages in a certain class of cases, particularly in those of stone or stricture in adults, where there is a good perinæum through which to make an incision. We can get excellent drainage by this route, curing the patient by the removal of the stone or cutting the stricture, and through the opening making the desired local applications. In young men with tubercular inflammation of the bladder, I do not think the perinæal route as good as the suprapubic. I saw one case where a perinæal incision was made, and septic inflammation in one of the kidneys followed. In another case, in a young man, extensive phlebitis in one lower extremity followed an operation upon the tubercular bladder. Before operation no evidence of tuberculosis could be found in either case in the kidneys or in the seminal vesicles. The suprapubic route, therefore, in my opinion, is much more preferable. Having opened the bladder from above and having found the tubercular focus, it may be excised. It had better first be treated locally before excision is recommended, inasmuch as excision is more grave than curettage or applications through the suprapubic fistula. These cases go on, and after all are not frequently cured. Let me merely mention orchidectomy and gonangiectomy in old people. The recommendation to remove these structures should not be done indiscriminately; but still I believe we have sufficient evidence before us that these operative measures have a place in surgery in inflammations of the bladder with enlarged prostate. Cauterization, recommended in these cases by Bottini, has a field before it, but with which I have had no experience. It must not be forgotten that prostatectomy, in selected cases, is the best treatment.

It is my function this evening not to exhaust the subject, but rather to invite discussion of the various surgical means at our command in the treatment of cystitis, and with this brief introduction I shall leave it to the members of the Society and visitors present for amplification.

THE PREVENTION OF CYSTITIS IN THE FEMALE.*

BY G. A. KLETZSCH, M.D., MILWAUKEE.

With your kind permission, I will supply another link in the discussion of cystitis. That is its prophylaxis. Let me, however, first take this opportunity to express my appreciation of the kindness of this invitation. I am not only thankful for having spent a very interesting evening, but more so for having had the honor of meeting the members of the Society. I only regret that my experience has been so limited in practice, relating to the subject before the Society this evening. My professional relations have mainly been with women and children, and having met with so few cases of cystitis in them I conclude they are not much afflicted with the disease in our day.

The conditions which conduce to cystitis in women have been very much bettered. In former years, it was quite common for cystitis to follow childbirth, when the bladder had to be relieved of its contents by the use of the catheter. It was then the universal practice to introduce this instrument into the bladder, without raising the bedclothes. Deference to the feelings of the patient resulted in a life-long disease of the bladder. We have overcome this false shame. We expose the meatus freely, cleanse the parts thoroughly and pass the catheter into the bladder without carrying any infection into its cavity. The result is a healthy state of this organ after the puerperium.

There are many abnormal conditions of the pelvis and the organs it contains which favor a lesion of the bladder in labor. Of the pelvis itself, any of the malformations which obstruct the passage of the child out of the uterus do so at the risk of injury to the bladder. In our present day we must recognize these complications early and assist the child into the world, if it cannot come out of the uterus by its natural path. Any of the modern or ancient methods, which are applicable to the case under consideration, must be resorted to. Symphysiotomy, turning, forceps, as well as Cæsarean section and Porro's operation, may be mentioned.

*Read before the Chicago Gynæcological Society, November 19, 1898.

An increase in the inclination of the pelvis leads to protracted labor and a consequent risk of compression of the bladder. It is bad practice to leave the head pressing against the bladder for an indefinite time, running the risk of contusion and cystitis, or even worse, fistula with long-standing cystitis. Our present means of assisting the act of labor, with the minimum of risk from the operation to the patient, are certainly aids in the prevention of cystitis. It is unnecessary for me to remark that the extreme measures should be resorted to only when all others fail. The point is to recognize the condition early.

When gestation occurs in a uterus which is displaced, as in retroflexion, the body of the uterus can become fixed under the promontory of the sacrum and the cervix be pressed against the neck of the bladder, compressing it against the symphysis pubis. Long before impaction of the uterus is complete and the bladder unable to get rid of its contents, symptoms are present which should call our attention to this unfavorable position in which the uterus finds itself, and we should give the needed relief by raising the body above the obstruction. By timely aid we certainly would avoid a serious trouble.

It is in place here to remark to what a wonderful extent the bladder can be displaced by tumors in the pelvis. It can be dragged out of its place from behind the symphysis pubis up into the abdominal cavity. It can literally be transformed out of its triangular shape into any other shape imaginable. Still no cystitis follows so long as it is not compressed or its outlet occluded. It takes a combination of circumstances to make a cystitis. They consist of a congested state of the mucous membrane of the bladder, an infection usually introduced into the cavity from without and retention of decomposed urine. So long as they are only singly met with, they are easily kept from doing any harm. If an occasion arises where two are combined, the result is obvious.

An irritated condition of the bladder producing a congestion, we know, is frequently present in the female. But as soon as the cause of the irritation is removed the bladder symptoms disappear. This was best illustrated to me, in my hospital days, by a demonstration of Dr. Emmet's. In a parametritis posterior he would fix the cause of an irritable bladder, which would have eventually ended in a cystitis, in inflammation of the utero-sacral ligaments. He contended that the inflammation in them soon led to contraction and shortening and consequent dragging of the uterus into the hollow of the sacrum. This made tension on the neck of the bladder at its fixed point under the symphysis pubis the base being attached to the cervix. He buttonholed the urethra to relieve this strain, thereby allaying the frequent desire to urinate, and

then treated the seat of the disturbance to overcome the cause of the trouble.

This teaches us two things in the prevention of bladder troubles: (1) To avoid introducing a cause, out of which a cystitis might arise. (2) To relieve the patient of the one present without the introduction of another through any action of ours. One condition alone can long exist without ending in a cystitis. In the autopsy-room I have examined many cases in which a hyperæmic condition of the mucous membrane of the bladder was found, this not having developed further than an increase of the vascularity of the part. Frequently the intense vascularity indicated that it must have been of long standing and still no inflammatory process resulted. The one element alone was present, which, in itself, was not sufficient to bring about a cystitis.

It is also a question in my mind whether infection alone can produce a cystitis. Experimentation on animals have been carried on to decide this point. But when the infection material was carried into the bladder, was not a lesion produced which was the seat of inoculation? When we are called upon to enter the bladder the one element is present, usually a congestion, and we introduce the other from without through the passing of the catheter. It behooves us to practise every care possible, therefore, when we are called upon to exercise this function. Not only must all infection be removed from the parts under observation but the instrument used must be thoroughly sterilized. Care must also be observed not to lacerate the tissues. For if the bladder contain decomposed urine, as it usually does, infection would find a fresh nidus by which it could enter and bring about its work of destruction.

CÆLIOTOMY IN THE TREATMENT OF THE INCARCERATED PREGNANT UTERUS WHEN IRREDUCIBLE.*

BY HENRY D. FRY, M.D., WASHINGTON, D. C.

Pregnancy may occur in a retrodisplaced uterus or the organ may become displaced in the early months of pregnancy. The physiological softening of the lower segment leads, in such cases, to early and exaggerated retroflexion of the gravid womb. By rapid growth the uterus fills the posterior half of the pelvic basin and is imprisoned by the projecting promontory of the sacrum. Continued increase of size is limited by the capacity of the true basin. Either spontaneous replacement occurs or abortion follows, or severe and dangerous pressure symptoms develop.

Properly applied treatment under anæsthesia will, as a rule, correct the displacement even when firmly incarcerated. In the small number of cases which resist these efforts at restoration the production of abortion, or more recently, vaginal hysterectomy, are the only methods of treatment recommended. Owing to the displacement of the cervix forward and the acute angle formed at the internal os more than usual difficulty and danger attend the artificial emptying of the uterus. Deficient drainage of the uterine cavity adds to the risk of sepsis. In the hope of saving the pregnant woman's life, vaginal hysterectomy has been employed as a last resort.

As an alternative for abortion or hysterectomy, a new method is here advocated.

The gravid uterus, displaced and irreducible by the means that has been at our command when manipulating from below, is successfully replaced by operating from above. The abdomen is opened in the usual way; the fundus and the body of the uterus grasped by the fingers and by manipulation directly applied in this way the displaced organ is lifted from its bed and brought into normal position.

This method was successfully carried out in a case operated upon on April 24, 1896. The patient was a colored woman, 23 years of age, a multipara, who entered the hospital complaining of severe bearing down pains and bladder symptoms. She passed her urine every half

* Read before the Southern Surgical and Gynæcological Association, Memphis, Tenn., December 6, 7, 8, 1898.

hour with much pain and tenesmus. Gestation was advanced between three and four months, and examination revealed a retrodisplaced uterus. All efforts to correct the position having failed, the abdomen was opened, the fundus released and brought forward and fastened by two buried silk sutures to the abdominal wall. The patient made an uneventful recovery and left the hospital June 10th. She passed through a normal pregnancy and returned at its termination to be delivered after a natural labor. The puerperium was free from complications and when finally dismissed from the institution her uterus was in normal position.

The application of cœliotomy to the treatment of this complication was original so far as the writer is concerned, and he was not aware, at the time, of its having been performed before.

Dr. Mathew D. Mann of Buffalo reported two cases to the American Gynecological Society at its meeting in Boston, May, 1898. In his first case he was uncertain of the diagnosis until after the abdomen was opened. This was in November, 1895. His second operation was at the Buffalo General Hospital, on July 22, 1897. The diagnosis in that case was retroflexion of the pregnant uterus, with incarceration. After cutting through the abdominal wall the peritonæum was found drawn up by the distended bladder. This was tapped and a large quantity of urine drawn off before the peritonæum was opened and the uterus replaced. Both cases terminated successfully. Dr. Mann says a careful search through the literature of the past five years failed to reveal but one similar case, which was reported by Dr. Murdoch Cameron of Glasgow, in the *British Medical Journal*, vol. xi, p. 1277, 1896.

The case was exactly similar to Dr. Mann's second case and was operated upon in the same manner. Doubtless many times the abdomen has been opened in unsuspected cases of pregnancy to relieve retrodisplacements with or without other pathological conditions. In Dr. Mann's first case the diagnosis was in doubt between a retroflexion of the gravid uterus or a cyst behind the uterus. Dr. H. Lapthorn Smith of Montreal says* he operated upon a woman who was supposed to have an ovarian cyst, but found a retrodisplaced pregnant uterus. He brought it forward and stitched it to the abdominal wall. The woman passed through her pregnancy and was confined at term. Dr. Malcolm McLean reported in the same discussion a case he had met with some three years before. The uterus was incarcerated in the true pelvis and there was a tumor extending into the abdomen, which proved to be a hernia of one portion of the uterus. As soon as the organ was released

* *American Journal of Obstetrics*, p. 279, 1898.

it assumed its usual shape, the woman went to full term, and was delivered normally.

Dr. J. C. Da Costa reported to the Section on Gynæcology, College of Physicians of Philadelphia, May 20, 1897, a case of retroflexed and adherent pregnant uterus with a cyst of the right ovary. After removing the cyst the adhesions were broken up and the uterus resumed its proper position. Recovery followed and Dr. Da Costa wrote that she was delivered at full term of a healthy girl weighing nine and a half pounds.

Commenting on this case Dr. Da Costa says: "This operation seems to justify the grounds that I have taken for some years past, that the proper way to treat a retroflexed pregnant uterus which is bound down by adhesions is to do a cœliotomy to free it."

The object of this paper is to recommend cœliotomy and reposition of the displaced gravid womb not only when adherent but when incarcerated and non-adherent.

A question open for discussion is whether or no, after replacing the uterus, ventral suspension should be performed. Dr. Mann, in closing the debate, excited by his paper, said "it seemed to him that any one who had once pulled out one of those uteri from beneath the sacral promontory, and had experienced the difficulty in doing this, would hardly think it necessary to perform ventral fixation." This is true so far as any danger of immediate recurrence is concerned, but we know that these displacements invariably recur after childbirth. The woman recovers with a retrodisplaced uterus and if conception should again take place she is liable to a recurrence of the complication. When a woman under these conditions submits to cœliotomy she is entitled to more permanent benefit than merely replacing the gravid uterus. If ventral suspension can be performed at the same time without increased risks, permanent and not temporary results are attainable.

The increased risks are the dangers of interrupting the pregnancy and producing an unfavorable influence over the confinement. Neither of these results followed the two cases reported: that of Dr. Laphorn Smith and of the writer. Unless future work shall prove that these dangers outweigh the advantages, ventral suspension, properly performed, should be added to the cœliotomy and replacement of the gravid uterus.

THE PATHOLOGY OF ENDOMETRITIS.

BY JOSEPH MCFARLAND, M.D., PHILADELPHIA.

Professor of Pathology, Medico-Chirurgical College.

A short time ago I was invited to take part in a discussion upon endometritis before the Obstetrical Society of Philadelphia. In preparing my remarks I was obliged to look over the literature of the subject a little, and was interested, but amazed, to find with what total disregard of pathological and biological consideration the subject is written upon by clinicians.

Almost any uterine discharge not clearly depending upon menstruation or cancer is referred to "endometritis," and is described and treated without much attention being devoted to its exact etiology.

Having reviewed the subject with some care, I determined to devote myself to simplifying it, hoping that as correct an exposition of the subject as might be possible would aid the student in forming a clear conception of the processes in progress in the endometrium, explain their symptoms, and suggest treatment.

Unfortunately, I had not progressed very far before I found a large number of cases which formed exceptions to my rules, yet I feel that these may simply serve to show that there are rules of which they are exceptions.

As there are many varieties of endometritis described, so there are various classifications made to include them. In the process of simplification, I found the following to work upon:

I. Pathological Classification.—Traumatic endometritis.

Catarrhal	"
Polypoid	"
Hypertrophic	"
Atrophic	"
Senile	"
Malignant	"
Congestive	"
Virginal	"
Tuberculous	"
Syphilitic	"
Puerperal	"

II. Etiological Classification.—Constitutional endometritis.

Dislocative	“
Reflex	“
Neoplastic	“
Infectious	“

III. Symptomatic Classification.—Mucous endometritis.

Hæmorrhagic	“
Purulent	“

IV. Histological Classification.—Glandular endometritis.

Interstitial	“
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V. Classification According to Duration.—Acute endometritis.

Chronic	“
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VI. According to Position.—Corporeal endometritis.

Cervical	“
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If I had searched longer I would probably have found other varieties and still other means of classifying them.

In order that the data upon which we have to work may be presented in a clear manner to the reader's mind, it will not be out of place to give a brief description of the endometrium and its chief diseased conditions.

The endometrium is one of the most peculiar, variable, and irregular tissues of the body. It consists of a single layer of columnar, ciliated, epithelial cells, arranged upon a basement membrane, and of a subjacent stroma of fibro-connective and muscular tissues, in which the glands are embedded. The endometrial stroma is not differentiated sharply from the muscular tissue of the uterus, and there is no muscularis mucosa or sub-mucosa, as in the stomach, intestines, etc. The endometrial glands are mucous glands, mostly simply tubules, though where they are largest they are branched. They are large and numerous in the cervical region and toward the horns of the uterus, and are small and simple in the lower part of the corpus. The final branchings of the glands seem not infrequently to descend into the muscular tissue. There is no separate blood-supply for the endometrium; it derives its nourishment from the more superficial uterine capillaries.

The intimate relationship of endometrium to uterus is almost like that of the endocardium to the heart.

The normal appearance of the endometrium varies widely in health, and is subject to developmental peculiarities by which there seems to be a pronounced increase in the glandular tissue during adolescence, a great increase during pregnancy, a decline toward the menopause, and an atrophy and disappearance during senility. In addition to these changes, the endometrium is suffused with blood for quite a long time every month during the period of menstruation, and meets with considerable disintegration and subsequent regeneration of those times.

A moment's reflection will satisfy any one that when a tissue is as variable as this, it is very difficult to establish a normal appearance which can be regarded as typical. It will also help the gynæcologist to understand why the microscopist hesitates to express an opinion that may mean a radical operation when some small fragment of the tissue is presented to him for examination.

Much of our knowledge of the endometrium is made up from the study of uterine curettings. Unfortunately, little satisfactory knowledge can be gained in this way, as it is impossible to locate the fragments even approximately, and they are usually twisted and disturbed by the curette. What is normal in the cervical glands may, when supposed to come from the corpus, be regarded as a pronounced hyperplasia. The scrapings are also at fault in cases of suspected malignancy, for they are all superficial while the neoplasm may be deep. Of course, when satisfactory evidence of malignant disease is found by a study of scrapings, it is of importance and is highly satisfactory, but the negative findings which are the rule are of little value and serve to discourage clinician and microscopist alike by their failure to explain existing conditions.

The entire uterus is lined by the endometrium, which, as it descends toward the os, loses its cilia, becomes more and more flattened, and ultimately is transformed so as to blend by an inconspicuous union with the transitional squamous epithelium of the vagina upon the cervix near or at the os.

The surface of the endometrium is kept moist by the secretions of its mucous glands, which are always pretty active. There is usually a plug of the mucus in the cervical canal.

The mucus of the uterus is alkaline in reaction, is transparent and viscid, and much resembles white of egg. The secretions of the vagina are acid. This observation is of some importance in connection with the infectious lesions of the uterus which cannot take place from the vagina during health. No large variety of bacteria inhabit the acid vaginal secretions, and pathogenic cocci and other organisms that might occasionally enter from the skin find the conditions unsuited to their

growth. For this reason the uterus is nearly always sterile. In diseased conditions, however, the reaction of the vagina may be altered by the presence of inflammatory products or by hæmorrhagic contents, so that the conditions may be favorable and infection readily occur.

Both theory and experiments, of which many have now been performed, seem to agree that primary infection of the uterus only occurs by implantation of micro-organisms during sexual intercourse, or by the examining fingers and instruments. Secondary infection in the course of treatment for endometritis seems to be rather frequent. An instructive series of observations have been made by Gottschalk and Immerwahr (*Archiv f. Gynäk.*, Bd. 50, H. 3, 1896), who found after a careful study of 60 cases of corporeal endometritis, that in 21 the discharges were sterile; in 7 cases staphylococci were found upon the first examination. In 4 cases staphylococci were found secondarily immediately after an acute gonorrhœal infection. In the remaining 28 cases the micro-organisms which were found were not pathogenic but were the ordinary micro-organisms from the external skin.

The blood-supply of the uterus is subject to numerous alterations, depending upon nervous, reflex, and other physiological as well as pathological causes. In these changes the endometrium, no doubt, participates, and may become swollen and congested, perhaps, to a degree approaching that seen in menstruation. Chronic congestion probably leads to changes both in the glands and in the interstitial tissue. Of these, more will be said below.

A brief review of the described varieties of endometritis will be necessary for a comprehensive grasp of the subject.

Traumatic endometritis results from accidents and therapeusis. It is usually an active inflammatory process not infrequently depending more upon infection than traumatism. It is characterized by hæmorrhagic discharge, which rapidly becomes purulent.

Catarrhal endometritis is usually a chronic condition supposed to be analogous to chronic catarrh of the respiratory and alimentary mucous membranes. It is characterized by a muco-purulent or chiefly mucous discharge.

Polypoid endometritis—also chronic—is characterized by the formation of rounded villousities, which project from the mucous membrane. They consist of endometrial stroma, rich in glands, covered with columnar epithelium. The polypi often show an infiltration of round cells in their structure.

Hypertrophic endometritis, also a chronic form, is characterized by

thickening of the endometrium and hyperplasia of the mucous glands. Sometimes polyposis forms a part of the process.

Atrophic endometritis, a late stage of other forms of the disease, is said to be characterized by hyperplasia of the connective tissue and cicatricial contraction by which the glands are destroyed. The endometrium becomes thin and may be smooth and shining. The cilia of the cells are lost.

Senile endometritis, which is not sharply differentiated from the preceding form is similarly characterized.

Malignant endometritis is used by some to describe a peculiar proliferation of the glandular tissue without invasion of the muscular tissue. Van Cott has called it *endometritis chronica malignans*. Others describe any endometrial disease in cases with malignant disease of the uterus as malignant endometritis. Violently destructive acute infection of the uterus are also sometimes described as malignant endometritis.

Congestive endometritis is said to result from the congestions which follow excessive venery, masturbation, etc. They may also depend upon uterine displacements, neoplasms and other conditions associated with congestion.

Virginal endometritis is probably the same as the "granular erosion" of the cervix, and "congenital laceration of the cervix" sometimes spoken of. It is characterized by descent of the endometrium beyond the os uteri so that the neighboring portion of the cervix is bright red instead of bluish in color. The cause is unknown.

Puerperal endometritis occurring after abortion, miscarriage, and labor usually is due to infection often with retention of products of pregnancy. Retained disintegrating tissue is, of course, a marked predisposing cause of infection.

Tuberculous and *Syphilitic* endometritis being associated with their respective diseases need no comments.

Constitutional endometritis is seen in the anæmias and cachexias. It is an irregular process, sometimes characterized by leucorrhœa, sometimes by bloody discharge.

Infectious endometritis results from the entrance of gonococci or other pathogenic micro-organisms.

Mucous, *hæmorrhagic*, and *purulent endometritis* are characterized by mucous, hæmorrhagic, or purulent discharges.

Glandular endometritis is a form supposed to affect the glands chiefly and bring about their proliferation and active secretion. The mucous

membrane may be thickened, polypoid, and may approach the adenoma in appearance.

Interstitial endometritis, the opposite condition to the glandular form consists in infiltration of the endometrial tissues with leucocytes, proliferation of the connective-tissue cells, multiplication and fibre formation and subsequent contraction of the newly found cicatricial tissue with atrophy of the glands and epithelium. It is like the atrophic and senile forms.

Acute and chronic, and *corporal and cervical endometritis* are self-explanatory terms.

In reading over a list like this one cannot help being impressed with the utterly dissimilar character of the processes included under the name endometritis, and asking himself whether it is true, or even probable that the conditions are all real inflammatory processes. A careful analysis will certainly convince any thinking man that they are not. We have included in that long list inflammations, hypertrophies, hyperplasias, atrophies, neoplasms, and specific inflammations. It is a chaos out of which it is difficult to bring order.

The method of classification that I would recommend is that which deals with pathological processes only, and excludes all reference to clinical conditions. Thus, for example there is an inflammation of the interior of the uterus—an endometritis—but by no means every diseased condition of that tissue is inflammatory. The diseases of other similar tissues are dealt with, as anæmias, hyperæmias, degenerations, inflammations, specific inflammations, neoplasms, etc., and the same kind of treatment is the only one that can be made satisfactory here.

The data that can be collected at the present time are barely sufficient to include in their proper places all the cases that are seen, but accuracy will come with more careful study of a large number of cases and more accurate observation upon those at present before us. From the positive information thus far attained it is possible to arrange the endometrial diseases into Hyperæmias, Inflammations, Specific Inflammations, Neoplasms, and Atrophies. Taking these up in order an outline of their essential peculiarities will be given.

I. *Hyperemia or Congestion of the Endometrium.* This condition, which is characterized by the presence of an unusually active blood supply, is clinically characterized in nearly all cases by a thin serous, seromucus and sanguinolent discharge. When the condition is very chronic and the glands much hypertrophied, there may be a typical leucorrhœa. The process is in all probability somewhat akin to menstruation in that the endometrium is thickened, its blood-

vessels distended, its substance infiltrated with serum and blood, and its glands stimulated to unusual activity. The escape of blood corpuscles probably takes place by diapedesis. The discharge occasioned by the process is varied according to the degree of glandular activity, the amount of transudation and the diapedesis of the corpuscles. When examined microscopically in fragments removed by the curette, there is an unaltered surface membrane, the glands appear normal or are enlarged, the stroma is infiltrated irregularly with blood corpuscles, numerous leucocytes appear in the interstitial tissue, wandering to the epithelium at times and even insinuating themselves between the cells so as eventually to reach the surface. In cases in which the process is very chronic there may be hyperplasia of the endometrium, multiplication of the glands and polyposis, or as in other chronic congestions, there may be opposite changes of an atrophic nature.

The causes of the hyperæmia are numerous, and it is almost impossible to separate them into arterial and venous hyperæmias as the blood supply of the uterus is so complicated. The congestion may depend upon physiological causes, such as result from natural or unnatural stimulation of the sexual organs; or it may depend upon reflex causes, as in cases of diseases of the adnexa with congestion of the uterus. Uterine displacements and neoplasms may also become causes of uterine congestion probably in some cases by preventing the proper return of the venous circulation, in other cases by increasing the arterial circulation as in cases of interstitial fibroids which act like pregnancy in increasing the size of the uterine sinuses, and in sub-mucous fibroids which by stimulating the uterus to contraction while increasing its size cause it to make powerful expulsive efforts.

Other causes of uterine congestion may suggest themselves to the reader, and will, no doubt, at the same time also suggest their own explanation. That any of the causes suggested may not produce the described conditions is only to be regarded as exceptional.

The condition of congestion and the sero-sanguinolent discharge which it occasions are predisposing factors to infection when any possible occasion arises. When, however, bacteria begins to operate upon the endometrium, the case changes its nature and it becomes an inflammation instead of a hyperemia. When, as usually happens, the bacteria cease their operations, after a time, the original condition may return with such modifications as the destruction of tissue, etc., shall effect.

To congestion of the endometrium must be referred those cases of continuous bloody discharge from the uterus which occurs in women during the climacteric.

I cannot but feel that these cases not unfrequently depend upon causes situated within the spinal centers and depend upon irregular action of these centers in performing a function about to be suspended. The cause of menstruation is, of course, not determined, but surely does not depend upon causes resident within the uterus as it ceases when the ovaries are removed. It is, therefore, involved in some complicated nervous reflex mechanism associated with both organs. The ordinary periodicity of menstruation depending upon a proper operation of such mechanism, one can understand how irregular action of the apparatus may entirely check the menstrual flow, or maintain it indefinitely, and is therefore prepared to expect that when it is about to cease altogether, it may continue intermittently for a time.

In rare cases profound anæmia may be associated with a discharge from the uterus which is of a mucous or muco-purulent nature. This probably depends upon a hydremic condition of the blood, which no longer stimulating properly the nervous controlling apparatus of menstruation, still supports glandular activity and enables the uterine glands to continue even an exalted activity.

II. *Inflammation of the Endometrium.*

1. *Acute Endometritis.* This is a rare process which results from the activities of bacteria which have gained entrance into the uterus. The bacteria usually seen are the gonococcus and the streptococcus pyogenes.

The process is distinctly acute and occasions a purulent discharge from the uterus.

Acute endometritis is not always occasioned by local infection but at times occurs in the course of infectious diseases especially typhoid fever, cholera, scarlatina and diphtheria. Diphtheritic endometritis with the true Klebs-Löffler bacillus is also known. It is, however, probably extremely rare except in the infections following child-birth and abortions.

Birsch-Hirschfeld states that in the course of certain toxemias such as poisoning by phosphorus, etc., an acute endometritis occurs. It is however, more than probable that instead of a true acute inflammatory process, it is degenerative.

Traumatic injuries by instruments and foreign bodies, etc., whether septic or not, produce an acute endometritis.

The *morbid anatomy* of acute endometritis, is simple and interesting. The membrane is swollen, hyperæmic and rather ragged from desquamation of parts of its superficial layers. The surface is bathed with a rather thick, purulent or muco-purulent secretion. Small hæmorrhagic patches are described by some observers. The disease is usually much

more distinct at the upper part of the uterus than at the cervix and may therefore be described as corporeal endometritis. Both the corpus and cervix may be affected.

Microscopically the lesions consist chiefly of round cell infiltration of the stroma, a desquamation of the surface epithelium, and an exudation of corpuscles upon the surface of the membrane. The pus corpuscles are found in larger or smaller numbers everywhere. They crowd the interspaces of the glandular stroma, squeeze in between the cells of the surface and glandular epithelium, not infrequently enter the cells themselves where they appear to be contained in vacuoles, and by escaping from between the glandular cells enter their secretions so that they have a muco-purulent character before they leave the alveoli.

The bacteria causing the trouble are found only in the beginning of the process. Secondary infections with modifications of the process may occur at any time.

Acute endometritis usually runs a course of moderate duration with a tendency to spontaneous recovery. From the acute cases, however, by persistence of the cause, by structural alterations, and because of nutritive disturbances, slightly different sub-acute and chronic processes may develop.

Chronic Endometritis.—Chronic endometritis can probably only be diagnosticated by careful exclusion of other pathological conditions. It is probably not an affection of frequent occurrence, though nearly every uterine condition with a discharge has been called by this name.

As has been said, the disease follows the acute form when the cause of inflammation persists. It is occasioned by foreign and retained bodies in the uterus. It also occurs as a secondary process engrafted upon the numerous congestions of the uterus and endometrium.

As a diseased condition there is nothing distinctive about it, and its lesions are very irregular.

In the early stages there is some round cell infiltration which reminds us that the process has originally been acute. There is little hyperæmia yet the blood vessels are full and there may be some extravasation of blood. The glands are prone to hyperplasia or hypertrophy (glandular endometritis) and pour into the cavity of the organs a considerable quantity of viscid slightly purulent mucus. Obstruction of the glandular outlets is followed by cystic dilatation. There may be signs of connective-tissue hyperplasia in the glandular stroma. As in other forms of chronic inflammation of mucous membranes, there may be occasional papillary or polypoid excrescences upon the surface of the membrane.

The course is indefinite, and there is no tendency for spontaneous cure to occur.

In the very chronic cases an atrophic condition results from the connective tissue proliferation and contraction by which the glandular tissue being pressed upon gradually atrophies. (Interstitial endometritis.) In this form there is a rather frequent obliterative endarteritis by which a considerable number of vessels are destroyed.

III. *Specific Inflammations*, such as tuberculosis, syphilis, etc., do not come within the scope of this paper.

IV. *Atrophy of the Endometrium* is part of the changes which old age produces in the sexual organs. It is a normal process which has nothing to do with endometritis. The cilia of the epithelial cells are lost, the cells become of a more cubical shape than usual, the glands are gradually lost and the entire endometrium may be changed into a smooth, shining, colorless tissue.

It is of course true that infections and congestions may modify the picture here given, which refers to typical cases alone. In the cases of old women with excessive mucous or bloody discharge, some additional factor is involved and there is more than a mere senile process to be looked for.

In the senile atrophy one sometimes meets the inexplicable paradox of diminished glandular tissue with apparently increased secretion.

V. *Neoplasms of the Endometrium*.—The most frequent of these are the adenoma and the adeno-carcinoma which usually spring from the endometrium of the corpus and project into the cavity as sessile growths, or inconspicuous elevations. Their growth is often downward into the muscular tissue. Only the immediate neighborhood of the tumor shows other changes in the endometrium than can be accounted for on the grounds of hyperæmia, etc. Not all cases of neoplasms are accompanied by much congestion, not all are infected, not all degenerate, therefore the clinical characters of the case must be most carefully considered.

It is a difficult problem to solve, whether or not some of the rare cases of universal hyperplasia of the endometrial glands such as have been described by Van Cott as endometritis chronica malignans are malignant or not. The more I deliberate upon the subject, the more disposed I am to regard them as benign.

PARASITIC INVASION OF THE MILK DUCTS IN THREE
NURSING WOMEN, WITH RESULTS SERIOUS TO
THE NURSING CHILDREN.

BY EDGAR D. SMITH, PH.C., M.D., CHICAGO.

These three cases are to me quite novel and are quite new. I remember the late Professor Knox of Rush Medical College mentioning a similar case, but do not remember having seen any reported cases in medical literature.

In case one, the fact that the infant had suffered from a difficult forceps delivery, made an element of doubt as to the cause of death, especially as a post-mortem confirmation was denied, but the later cases have, in my judgment, removed this doubt and confirmed my first suspicions.

In cases *two* and *three* the children presented the same collapsed appearance as did case one, but they rallied on withdrawal of the mother's nurse and regained their normal health in twenty-four hours after they were put on artificial food. I do not think any intelligent person, physician or layman, could, after seeing these cases, fail to agree with my deductions as to the cause of death in case one and the cause of the serious symptoms in the other two children and the probably fatal consequences that would have followed the continuance of the mother's milk.

I have samples of the milk in each of the three mothers and can and will demonstrate my position to any one desiring such demonstration.

The first sample is more than two months old, still it presents little or no change, except the parasites have grown to a larger size and are more easily recognized. I believe they are scabies, but not those usually seen, being of much smaller size. In this I may be wrong, but a comparison of this parasite with some undoubted scabies, seems to confirm this view.

As this variety (if variety it is) of scabies is very common in a part of Chicago at the present time and as I have found it on fruit, I am inclined to think that the fruit is the source of distribution.

Further, it is not found in uncleanly persons, but is present on those taking daily baths, and the majority of those I have seen are in the well-to-do.

Leaving this excusable digression I will now describe the cases.

Case I.—This case came under my notice late in September last. The child, a newly born infant with slight bruises about the head from forceps, went into collapse about two hours after being put to the breast for the first time. As the child breathed at once after delivery and as the bruises did not seem to me to be severe enough to produce this state, I forbade further nursing of the child by its mother until I could examine her milk. The nurse followed the letter but not the spirit of my orders, feeding the child with milk she (the nurse) had drawn from the mother's breast. This she did twice and each time the child's symptoms, which had grown less, became more severe and it died from exhaustion thirty-six hours later.

The child presented the following symptoms, *viz.*: A cold and clammy skin, covered with profuse perspiration, vomiting, a feeble and rapid pulse, contracted pupils (sometimes dilated), and later the bruised parts became very much infiltrated, with a bloody serum. After each feeding, the symptoms, which partly subsided some hours after the first feeding, became more pronounced and the child died from exhaustion while the nurse thought it sleeping.

A microscopical examination of the mother's milk in this case presented milk-globules, globules presenting the appearance of red blood-corpuscles, and globules of about six times the diameter of the latter.

As the milk had a color suggesting blood, this was what I took the medium-sized globules to be on a hasty examination. Later I made a more careful examination when I noticed a frequent irregularity of the two larger globules and small cilia or hair-like projections from these irregular points, which hair-like extensions presented free movement. When allowed to stand some time or treated with alcohol, the medium-sized globules I found to contain one and the largest two or more living parasites. That these came from the gland itself was evident, as they were only found in the globules described, inclosed in an envelope of fat and not outside of them. I made many examinations to demonstrate this point and the result was invariably the same. The parasites were much smaller than the true fat globules.

Their nature I was unable to determine until some days later, when they had grown to many times their size on first examination. They were equal in number to one-third the fat globules present in the milk.

Case II.—A child four months of age had gradually grown fretful and suffered from severe intestinal colic. At the time I was called the colic had become serious and the child slept little, vomited, and was losing flesh.

I did not at first suspect the cause but ordered a temporary suspension of food and gave a sedative mixture for the gastric and intestinal mucous membranes. As soon as feeding was suspended for a few hours and the sedative mixture given the child showed marked improvement.

This interval of rest from nursing seemed quite as favorable to the parasite as the child and a resumption of nursing was followed by some severe symptoms in the child. After the lapse of five days the child presented the same facial appearance as did case one.

I now ordered the mother to cease nursing her child and took a sample of her milk for careful examination. I first made a microscopical examination and found the parasite under discussion present but in much smaller numbers than in case one. I put the child on an artificial food and from that moment improvement was rapid and permanent, the child needing no further medical care.

Case III.—This case was similar to case two in every respect except the child was much younger—26 days old. Here the collapsed condition of my patient, on the second day following my first attendance, excited my suspicions and resulted in an early diagnosis. The child showed the same prompt improvement after an interval following the withdrawal of the mother's milk and the corresponding collapse following its renewal was more marked. In fact, I feared for the life of the child. When put on artificial food the recovery was prompt and permanent, as in case two.

The symptoms most marked and those that should induce the attending physician to examine the mother's milk are gradually increasing colic and intestinal irritation in a nursing child, where the cause for the same does not appear plain. If after an interval of withdrawal of the mother's nurse the symptoms become more marked on renewal of such nurse, the presence of this parasite is quite probable.

Of course I have no means of determining how common this parasite is nor the extent of its distribution, but as these three cases came under my observation within two months, I feel that I would be remiss in my duty as a physician not to report the same.

306 Division street.

BLOODLESS AND ASEPTIC VAGINAL HYSTERECTOMY.

BY JOHN BYRNE, M.D., LL.D., M.R.C.S.E., BROOKLYN, N. Y.

On July 27, 1895, I removed the uterus, tubes, and ovaries by means of the galvano-cautery knife alone, neither scalpel, scissors, nor other cutting instrument having been employed throughout the entire operation. This was the first time in the history of surgical gynecology, so far as I know, in which the operation of total vaginal hysterectomy had ever been done, or even attempted, by such means.

Since then I have repeated this operation four times successfully, thus demonstrating, not only the feasibility of the method, but its distinctive quality of securing to patients a large degree of immunity from inflammatory, septic, and other complications, so apt to follow vaginal hysterectomy as ordinarily performed.*

While favored with these successes, however, I could not but regret on each occasion, that some method of securing the uterine and ovarian vessels other than that of Péan, could not be adopted. Though, in each of these five hysterectomies, all tissues had been severed by the cautery knife, even to the final separation and removal of the uterus, yet the operative work always seemed unfinished, incomplete, and consequently, defective to an important degree.

Nor, have I been unmindful of the annoyance and distress, to say nothing of the risk of contamination from the presence in the vagina of a number of compression forceps for 48 hours. At the expiration of this brief period, though the patient will have barely rallied from the effects of a capital operation of much gravity, she is doomed to undergo a second, and usually painful and trying ordeal, namely, the release and removal of these instruments. The dread and nervous apprehension with which patients, already weak and exhausted, regard this second procedure, and the unavoidable suffering which it entails are matters too well known to need more than mention.

So long, therefore, as it was found impossible to eliminate this piteous outcome of vaginal hysterectomy, even by galvano-cautery, we could only acknowledge and deplore the fact while still continuing to look upon the Péan method of securing hemostasis in these operations as a clumsy and unsurgical proceeding.

* *American Journal of Obstetrics*, vol. xxxii, 1895.

It is with more than ordinary gratification, then, that I am now able to report two cases of vaginal hysterectomy for adeno-carcinoma of the corpus, in which neither ordinary forceps nor ligatures of any kind were employed; the entire operation in both being practically bloodless and, of course, aseptic as well as antiseptic.

For a most efficient means, through which I am enabled to chronicle this important advance in electro-thermal surgery, I am indebted to that ingenious contrivance of Dr. A. J. C. Skene, his electro-hæmostatic forceps. By the use of this invaluable instrument all difficulties such as I have referred to, and many more too, in abdominal as well as pelvic surgery, may, hereafter, cease to be considered.

The date of the first case in which I was able to discard the ordinary compression forceps and complete the operation by cautery alone, was November 5th, and that of the second, December 7th. In neither did the temperature reach 100° at any time, and recovery in both was rapid, uneventful, and complete. When the time arrived for clamping the broad ligaments, these parts were secured by the Skene forceps and a suitable current of three-minutes duration served to cook and desiccate all the tissues within its grasp.

I shall reserve all details regarding the technique of these operations for another occasion.

314 Clinton Street.

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EDITORIAL.

THE VALUE OF THE THERAPEUTIC FORUM TO SUBSCRIBERS.

Just one year ago we called our readers' attention to a new Department which we had established in the JOURNAL and which we named with aptness "The Therapeutic Forum." Its name distinctly and categorically describes its intention and its use. We promised that to this *forum* of scientific public opinion the newer drugs should be brought, without fear or favor, and we urged upon our readers the advantage to themselves of assisting us in this work. We pointed out that only by such means could a fair and unbiased judgment be rendered upon the efficacy or inefficacy of special drugs, particularly those derivatives from organic and inorganic sources new to the experience of the profession. Until the establishment of this Department we were dependent upon the advertising circulars of the proprietors of these therapeutic agents and the letters and commendatory articles from physicians sent us from such a source were always open to the suspicion, at least, of having been written in the business interest of the manufacturers. At any rate no medical criticisms were ever presented to us adverse to these drugs—no failures were ever mentioned nor limitations pointed out—while we were flooded with letters of commendation. The only method, therefore, open to us by which we could scientifically form an opinion of the value of such drugs was that of personal experimentation upon our patients, each man for himself. This method was not admirable.

It was not only in many cases expensive for the physician but unfair to the patient. It was clumsy and not scientific. We need only call to mind, as instances of the great harm done to patients by this method of practice, the use of chloral hydrate and of cocaine during the first few years after they were put upon the market. Before physicians had come to realize the actual value of these drugs—their scope and limitations in usefulness, the danger which accompanied their free use—thousands of patients had unwittingly become addicted to their habitual abuse. For the drug habit, with all its terrible consequences, physicians are responsible because they go floundering about in the prescribing of new drugs, of whose real nature and merits they are necessarily ignorant. When each man has accumulated sufficient data by experimenting upon his patients to form a reasonable judgment, the damage he has done frequently outweighs in the seriousness of its consequences all opposing good.

The value of any man's judgment, to his fellow men, depends upon three circumstances, namely, *what is the judgment, good or bad; who is the man who judges; what motive or motives underlie the expression of his judgment.* When we deal with scientific judgments, as we must in our profession, a satisfactory answer to each of these questions becomes a necessity before any opinion can be accepted. We must know what the opinion is and by what methods the physician arrived at it, we must know on what grounds of personal authority and experience he asks us to accept his judgment and, finally, we must be convinced that he is acting in good faith and is not influenced by extraneous or personal motives in the expression of his judgment. For the purpose of affording the necessary circumstances for the scientific expression and acceptance by medical men of the value of new drugs we have established *The Therapeutic Forum*. To it we urge again the contribution by our subscribers of any personal experience of value.

The acceptance and publication of any original contribution to this Department is a guarantee that its author is a regular physician in good standing, that the drug he writes about is manufactured and sold by a reputable and reliable firm and presented to the profession in an ethical manner and, finally, that so far as it is possible for us to ascertain the fact the writer is unbiased and independent in his judgment. In many cases the name and reputation of the writer is sufficiently convincing on this point, but in all other cases we assure ourselves in advance that he is worthy of credence and is not writing in the interests of any manufacturer. The Editor and Proprietor of this JOURNAL has made himself personally responsible for the observance of the above condi-

tions and the better to secure them we place in prominent headlines in each issue that we shall welcome equally the adverse criticism and the recommendation of drugs, if they be the just expression of personal experience. We will not admit extravagant or fulsome praise of any therapeutic agent; in fact scientific truth is better served by presenting the ungarnished facts of experience with the logical and unadorned deductions therefrom. Moreover, let us assure our readers that we will as unhesitatingly publish the adverse experience with a drug sold by any one of the manufacturers who advertise in this JOURNAL as we would that with any other drug and this fact our advertisers thoroughly understand and accept.

This Department is carried on not in the interest of the manufacturer but in that of the physician that he may obtain from medical sources, independent of the manufacturer, information as to the real or scientific value of drugs. That *The Forum* is also of great gain to the manufacturer is undoubtedly true but it is a gain that is justly his for, if obtained, it must be that of merit only. If his preparation is not good, he is as equally certain to find it denounced and its demerits pointed out and proved.

It is with great satisfaction that we call attention to the prominent names of contributors to *The Therapeutic Forum* in the December issue and this month. It is the best evidence of appreciation of our good faith and of the sincerity of our work. It should also be an example and an encouragement to a spontaneous and more general contribution, among our subscribers, to this Department.

CORRESPONDENCE.

THE MEANING OF SO MUCH DUSTY ELECTRICAL APPARATUS.

PHILADELPHIA, December 25, 1898.

Editor of the American Gynæcological and Obstetrical Journal:

SIR: In an appreciative if imperfect review of my work on "Conservative Gynæcology and Electro-Therapeutics" in the last number of the JOURNAL the writer contented himself with certain pleasantries that belittled the sober narration of facts contained in the book instead of dealing fairly with them. Now, aside from any personal interest I may have in the matter, I submit that this method of dealing with the scientific questions at issue is not in keeping with the highly judicial character of the JOURNAL as shown in numerous editorials, and I ask space for a brief rejoinder. Such levity concerning the question of the best treatment of certain affections of women is also in striking contrast with the serious attitude assumed towards these same diseases by gentlemen in sympathy with your reviewer, who are rarely satisfied if they fail to perform less than three major operations on these women per day. Whether these operations are necessary or not is a question that may be laughed off, it is true, but I have ever noted that the laugh dies away when the interest in the patient is of such a character that calls out the esoteric qualities of our professionalism. Such an interest in a given patient would, I am sure, dictate a careful weighing of the proofs contained in the book of the value of electricity in the conditions cited.

But the reviewer states a most important fact when he alludes to the dusty batteries in the offices of the "great gynæcologists," and the meaning is one of much importance to the gynæcologists who have remained true to their specialty and have not given up the careful practice of their profession for the glittering rewards of a purely surgical career. This meaning is plain enough when looked into a little and is but another proof of the wisdom of the saying that figs do not grow upon thistles. To expect a man who is interested in major surgery alone to practise properly so humdrum an occupation as actually curing women without surgery is ridiculous. It is true that the interests of the patients are liable to suffer when, by some fiction of the imagination, so palpable an advocate is also expected to be a judge, but I am now more concerned in the value of the expressed opinions of surgeons con-

cerning electricity and the effect of these opinions on practitioners less given to the knife.

The dusty batteries of the great surgeons (that is, those that are dusty, for much quiet electrical work is done by them on patients who refuse operation) mean that a man interested in major surgery so exclusively as to unfit him for other work should not be asked to decide for us upon the value of any means of treatment to which his inclinations and training made him indifferent. The verdict of the value of electricity in gynæcology lies with the great mass of the profession, who can look with judicial eyes on the ultimate results and actual necessity for sacrificial operations, and who have both the skill and inclination to follow out any line of treatment that is best for their patients.

G. BETTON MASSEY.

REVIEWS.

A Text-Book of Obstetrics. By BARTON COOKE HIRST, M.D. W. B. Saunders, Philadelphia, Publishers.

At this time when so many excellent works on this subject have recently appeared none but an unusually good book would be well received and not suffer by comparison.

The volume before us is an unusually good book and we do not hesitate to say that it will hold its own in any company.

The very extensive experience of the author both as a practitioner and as a teacher has rendered him peculiarly fit to prepare a book that will serve as a guide to undergraduates, to students and to physicians in active practice.

His lucidness of expression and faithfulness to detail will be appreciated by every reader.

The work is divided into the following seven parts: Pregnancy, the physiology and management of labor and of the puerperium, the mechanism of labor, the pathology of labor, the pathology of the puerperium, obstetric operations and the new-born infant.

In the first part of the work the anatomy of the female sexual organs is particularly fine and the plates showing dissections of the

vessels, nerves and lymphatics are beautiful. The study of the membranes, placenta and cord, with their malformations and diseases, are exhaustive and yet instructive and interesting. The diagnosis of pregnancy is treated at great length and the changes in the breasts and discoloration of the vagina are shown in beautiful, colored plates.

Perhaps the most valuable portion of the work are the explicit instructions given for the management of labor and the care of the patient during the puerperium. The chapters upon puerperal sepsis are most commendable and the technique of the obstetric operations given is excellent.

With so many good things it is difficult to select the best.

After producing this work Dr. Hirst might well say with the late P. T. Barnum, who always thus closed his daily speech: "If there is any more that you wish to know just buy my book."

In speaking of this book it would be unjust not to mention the excellent workmanship displayed in its production; the artistic illustrations and attractive colored plates, the new type and rich, heavy paper. Both author and publisher are to be congratulated upon such a production.

O. H. P.

The Medical News Pocket Formulary for 1899. Containing sixteen hundred prescriptions representing the latest and most approved methods of administering remedial agents. By E. QUIN THORNTON, M.D., Demonstrator of Therapeutics, Pharmacy and Materia Medica in the Jefferson Medical College, Philadelphia. In one wallet-shaped volume, strongly bound in leather, with pocket and and pencil. Lea Brothers, Publishers, Philadelphia and New York.

This little book, in its portable and otherwise convenient form, will undoubtedly be found very useful to the busy practitioner who, while realizing the need from time to time of refreshing his memory, as we all do, in regard to the special action or therapeutic value of a given combination of drugs under special indications, would find it a hardship in the matter of time and trouble to go to his library for his materia medica or United States Formulary. Although this Pocket Formulary is in no sense exhaustive, it has aimed to present a very large number of approved prescriptions and excellent combinations under the diseases for which they have been found best indicated. In that it has succeeded. It is to the standard formulary what the pocket

dictionary, which even the man who can spell need not despise, is to the formidable lexicon.

It is, moreover, well up to date in the presentation of the newer remedies which have received general endorsement and in this regard, where *rerum fames novarum* proves an irresistible temptation to so many, the author deserves great credit for his discrimination and good judgment. Throughout, his work is evidently the result of hard and conscientious effort.

The formulæ are placed under the headings of the diseases in which they are indicated and this list of diseases and morbid conditions is exceptionally complete.

Its typographical work is good and its general appearance, in size, color and binding, presents that respectable and appropriate effect which is so aptly termed "professional."

E.

TRANSACTIONS OF THE NEW YORK OBSTETRICAL
SOCIETY.

Stated Meeting, October 11, 1898.

The President, W. GILL WYLIE, M.D., in the Chair.

A CLINICAL MEETING.

*A Cicatricial Mass the Size of a Closed Fist on the Left Side of the
Uterus caused by a Silk Ligature applied Six Years ago; a
Melano-Sarcoma removed from the Abdominal
Wall Three Years ago.*

Dr. H. N. VINEBERG: This case presents several interesting features. The patient, a very large and fat woman, weighing over two hundred pounds, first came under my observation in May, 1895. Three years prior to that date—six years ago—she was operated upon in the Woman's Hospital for a double pyosalpinx. Her convalescence was protracted by the occurrence of considerable suppuration in the abdominal wound. About a month before I saw her she noticed a small lump in the abdominal wall in the median line two inches above the upper limit of the scar. The tumor felt hard, was about the size of a small hen's egg, and moderately sensitive. On depressing the fingers over the thin scar a few small nodules were felt along the inner surface of the left border of the scar. On vaginal examination a small nodule about the size of a cherry was felt near the left horn of the uterus. This was quite sensitive.

The patient's family history was very bad. The mother, an uncle, and maternal grandfather all died of malignant disease. The diagnosis of a probable malignant growth in the abdominal wall was made. At the operation a few days later the growth was found to extend through the whole thickness of the abdominal wall down to the peritonæum, but not beyond it. With the peritonæal cavity open it was possible to palpate distinctly the nodules on the interior of the left border of the scar. These I regarded as mere circumscribed thickenings of the parietal peritonæum—in other words, old scar-tissue. An eminent surgeon who was present as consultant proposed cutting away only a portion of the

growth to have it examined microscopically, for if it proved to be malignant the case would have to be considered as inoperable, as the other nodules would also be malignant. I could not concur in this view. Accordingly, I excised the entire growth, with considerable of the surrounding tissues. The patient made a good recovery. On microscopical examination by a competent pathologist the growth proved to be a melano-sarcoma.

The woman remained perfectly well until the spring of this year, *i.e.*, for three years. She then began to complain of pain in the left iliac region and of increasing difficulty in defecation. When I saw her on June 18th she had been in bed for about a fortnight. The pain was very severe and she had lost considerably in weight. The abdominal incisions were absolutely free from any growths. On vaginal examination a mass the size of a closed fist was found occupying the left side of the pelvis. It was very firmly attached to the small atrophied uterus and to the lateral pelvic wall. It was very sensitive and encroached considerably upon the bowel, and to this fact was due the obstinate constipation. The diagnosis was in doubt. The mass was thought to have something to do with the old pedicle, but the probability of its being a metastatic sarcomatous growth was entertained. An exploratory incision was advised and accepted. On opening the abdomen the true nature of the mass was at once revealed. It was made up of exudate and hypertrophied fat from the appendices epiploicæ of the sigmoid. Its removal seemed feasible. This, however, proved very difficult owing to the effacements of landmarks and the intimate involvement of the large bowel. In the center of the mass was this ligature of stout silk. The patient was a bad subject, being very fat and flabby, but she withstood the operation fairly well. About the end of the second day symptoms of peritonitis developed—vomiting, distention, and paralysis of the bowels—and the patient died at the end of the fourth day. No autopsy was permitted.

The case illustrates some instructive features: (1) The advisability of removing at the first operation (the patient's second) what appeared to the naked eye and to the touch to be a malignant growth, and in not assuming that the nodules in the scar were of the same nature. (2) The long period of non-recurrence of a growth which is considered highly malignant. (3) The wisdom of not positively assuming that the pelvic mass was a recurrent growth. (4) The irritative properties of a silk ligature after an apparent quiescence of nearly six years.

Dermoid Cyst simulating Ectopic Pregnancy.

Dr. VINEBERG: The second case is interesting from the point of differential diagnosis. During the past summer I was called to a neighboring town to see a case which presented several puzzling features. The woman was 33 years of age, had been married fourteen years, and had four children, the youngest being 2 years of age. The woman was in the habit of frequently resorting to the intra-uterine use of a catheter whenever she went over-time. Four weeks prior to my visit, on August 10th, she had gone twelve days over-time and made use of the catheter. This failing in the desired effect the aid of a midwife was called into requisition. Her efforts were apparently crowned with success for on the following day a decided flow set in, attended with severe pain. Two days later she was seen by the local physician, a very capable man. He found the uterus moderately large and the patient with a temperature of 103° F. and a pulse of 110. He immediately curetted her under full anæsthesia, removing about a teacupful of decidual tissue. The uterus was lightly packed with iodoform gauze. The patient shortly afterward had a severe chill and her temperature went up to 104° F., but fell to normal on the following day. She remained in bed for a week and apparently made a good recovery. After getting up she began to suffer from frequent attacks of abdominal pain resembling labor pains. This increased in severity and for the week past she had been obliged to keep to her bed. The temperature had been normal until the week previous, since which time it had ranged from 100° to 101° F. The flow had not returned since the curettage. While the patient was under the anæsthetic the doctor detected behind the uterus a roundish tumor of varied consistency and about the size of a large orange. This tumor had increased in size during the four weeks the patient was under his observation.

I found a thin, wiry-looking woman, whose face expressed acute suffering. She stated that prior to this illness she had been free from any pelvic symptoms. On examination I found the uterus slightly above the normal size and the cervix rather large and somewhat patulous. Behind the uterus and closely attached to it lay a tumor about the size of a cocoanut, moderately fixed. It was of varied consistency, being partly soft and elastic and partly moderately hard. The left adnexa could not be palpated owing to the great rigidity of the abdominal wall and sensitiveness of the patient. The diagnosis lay between a retro-uterine hæmatocele, complicated with peritonitis, as a consequence of a ruptured tubal pregnancy, or a dermoid cyst, with some local peritonitis.

The absence of any symptoms prior to the present trouble, and the fact that the tumor had appreciably increased in size since it was first detected four weeks previously, favored the diagnosis of extra-uterine pregnancy occurring simultaneously with the uterine. On opening the abdomen a few hours later I found a dermoid cyst of the right ovary with considerable adhesions. There was a cyst of the left ovary the size of a mandarin orange. Both cysts were removed, the patient making an uninterrupted recovery. An additional feature of interest in the case is the fact that the woman had so recently conceived when both ovaries were evidently completely disorganized. At the time of their removal there was absolutely no ovarian tissue appreciable to the naked eye.

DISCUSSION.

Dr. G. W. JARMAN: In regard to the second case, there is to my mind a question as to the propriety of removing a cystic ovary. The fact that the woman had conceived within the previous six weeks shows that one of her ovaries still retained functional activity. It is pretty certain that it was not the one containing the dermoid cyst; therefore, it must have been the cystic ovary. Would it not have been wiser to have left that ovary, since it contained some ovarian tissue, in order that the patient might be spared the many disagreeable symptoms which follow the artificially produced menopause? I have no intention of criticizing the speaker's action in this particular case, but would like to hear the point discussed.

Dr. RALPH WALDO: Taking into consideration the fact that one of the ovaries contained a dermoid cyst and that the other was cystic, I should think that if the latter had not been removed it would have necessitated a second operation later on for its removal. So far as the question of possible maternity is concerned, it should be remembered that in the present case the patient did not desire children.

Dr. HENRY C. COE: I did not hear the history of the case, so that it would not be fair for me to discuss it. However, the subject of so-called cystic degeneration of the ovary is too important to be passed over without remark. In his new book, Kelly refers to the term "cystic degeneration" as a misnomer. As to whether it is wiser to leave a cystic ovary, it should be noted that the limits of true cystic degeneration are so indefinite that it is not easy to establish any fixed rules. Probably dropsical follicles develop into true cysts.

Dr. VINEBERG: Before the discussion goes any further I would

like to say that in the case in question the ovary was not cystic, but a cyst. There was absolutely no ovarian tissue to be seen by the naked eye.

Dr. JARMAN: Even though there was a cyst of the ovary, I question whether it should have been removed after the opposite one had been taken out. I am perfectly willing to confess that I have been in the habit of removing such ovaries, but I am not going to do it in the future. I see many women who come to the Vanderbilt Clinic for post-operative treatment, and I know of no more miserable creatures than those who have had both ovaries removed. This is especially to be noted in women who are young—under thirty. For this reason I have become impressed with the gravity of the results of removal of the appendages, that it seems to me justifiable to perform the operation only when the patient's life is in danger. Suppose there was a cyst, what then? We have all had come to us women who had tumors in the pelvis as large as a lemon, and yet in the course of a few months that tumor will disappear. We do not know what it was—it may have been a cyst which has ruptured, or a dropsical condition of the ovary. The fact remains that it has disappeared. Why then remove the ovaries of every woman who has a tumor in the pelvis. I would rather leave such cases alone and let the patient take the chance of the tumor disappearing. In the case reported by Dr. Vineberg, I would certainly have left the cystic ovary. I am convinced that a physiological cure is oftentimes preferable to an anatomical one.

Dr. W. E. PORTER: I quite agree with what Dr. Jarman has said. I have had a number of cases similar to the example he cites. In 1891 there came to me a young girl who had two very distinct tumors in the pelvis. I operated and found that on the left side to be a tumor of the ovary about the size of a lemon. This I removed. Then came the question as to what to do with the right ovary, which was the seat of cystic degeneration. I adopted the course which I have since followed, of opening and dissecting out or scraping the cyst-wall and sewing it up again. At that time I used fine silk—now I use catgut. Two years after the operation the patient married and within a year and a half I delivered her of a healthy child. At that time I had a good opportunity to examine her thoroughly and found the condition of the remaining ovary perfectly normal. The woman has since had a second child and is in perfect health. We all have seen similar cases, and we are going to see more of them. In the clinics we see so many examples of the unfortunate results which follow oöphorectomy that we should always leave one ovary, or a portion of one, whenever this is possible.

Dr. ROBERT A. MURRAY: During the past few years two cases have come under my observation in which there was a question of removing both ovaries, and in both cases I have left one even although it was somewhat cystic. One of these women has been pregnant and miscarried while the other is now a month and a half pregnant. I also know of two other cases, occurring in the practice of a colleague, in which the patients have borne children under similar conditions. It has been said that when there is a cystic degeneration of both ovaries, there is apt to be rapid progress of the degeneration in the remaining ovary after its fellow has been removed. I have not found this to be the case, and do not see why it should necessarily be so. Occasionally a second operation may be required to remove the remaining ovary, but a woman who has stood one operation can generally stand another, and to-day aseptic operations are not attended by much danger. I have noticed that after one ovary has been removed, the second will decrease in size; especially is this so if the uterus has been curetted at the time of the abdominal operation. We have all seen cases in which ovaries enlarged before a curetting have grown smaller after this operation. I believe we should be very cautious about taking away an organ which has such a vital effect upon the nervous system.

Dr. JOSEPH BRETTAUER: I do not agree with the speakers who are in favor of leaving a diseased ovary *in situ* after the other has been removed. By "diseased" I do not mean an ovary which is the seat of a number of cystic follicles. The majority of ovaries are in such a condition, but I do not call them diseased ovaries. If an ovary is the seat of a cystoma which is a neoplasm, I remove that ovary. A cyst is much more progressive in its development than a fibroid, and is, therefore, more dangerous than a fibroid. The sooner it is removed the better. If we have removed one ovary for reason and find that the other is the seat of a cystoma, either dermoid or simple, I think that ovary ought to be removed. In removing ovaries which are in a state of cystic degeneration, I sometimes let circumstances govern my decision. If the patient is over thirty-five and has borne many children, I do not hesitate so very much to remove the ovary as I would in the case of a younger woman. Most of the patients who go to the clinics for post-operative treatment are those who have had the appendages of both sides removed for inflammatory disease and not for cystic degeneration.

Dr. W. R. PRYOR: The specimen shown by Dr. Vineberg is a cystoma and not one of cystic degeneration of the ovary—two very different conditions. The specimen is so shrunk that it is impossible to determine whether there is enough ovarian tissue in the periphery of

the organ to warrant leaving it in order that the patient might have the opportunity to conceive again. Extraneous circumstances—the desire for children, the need of an heir to a great fortune or a great name—will, to a certain extent, govern one's decision as to the advisability of leaving in a portion of an ovary the seat of a cystoma. When the matter is laid before the patient she will decide whether or not she wishes to retain the diseased ovary and take the chances of having to submit to another operation later. We know that women conceive when they have a cystoma fifty times larger than this, but that is no reason why a portion of such a diseased ovary should be left. Unless I were governed by powerful extraneous reasons which have been discussed between the patient and myself, I would not leave any part of an ovary which has been capable of developing such a cyst as that shown in the specimen.

We all know that sows get fat after being spayed, but we do not know whether or not this is due to the non-retention of ovarian secretion. We know nothing of all this, and to-day when diseased ovaries are left in it is done for purely sentimental reasons. My belief is that the metabolism is influenced not so much by the internal secretion of the ovaries as by the activity of the menstrual center. Certain women have had their uteri removed and their ovaries left. Others have lost prematurely, by hyperinvolution, all uterine function, and this we have seen in very young women. But in all of these, although the ovaries remained, the same genital atrophy, increase in flesh, and subjective symptoms of menopause have been observed.

I do not think we can yet say that it is the internal secretion of the ovaries which influences metabolism: for it may be that their influence is an indirect one, such as is observed when the uterus is removed.

But, following Curotulo's teaching, I always leave the ovaries when I can, simply because it may not be admirable to remove organs not diseased and, again, because, after all, they may have an important internal secretion.

Dr. BACHE McE. EMMET: While I agree with those who are in favor of conservative treatment of these cases, I would also like to take my place among those who, in the presence of positive disease, believe in removal of the ovary. In many cases the cysts can be pricked and touched with carbolic acid and the ovary saved. In those in which the condition of the organ gives rise to pain, I remove it even although the disease does not endanger the patient's life. It is a common thing to find that the pain of which a patient has been complaining is on the side where there is no sign of disease of the ovary, whereas the other

presents marked changes. In such a case both ovaries should be removed, as a matter of course, though the age of the patient, the possibility of maternity, and the desirability of not disturbing the nervous system should all be taken into consideration in determining the treatment.

Dr. VINEBERG: I think Dr. Pryor has struck the key-note of the whole thing. The case is not one of cystic degeneration but of cystoma. The ovary was nothing but a bag of water; there was no ovarian tissue to leave. To make clear my own position and conservations I may say that shortly after operating upon this case I operated upon a young girl and removed a fibro-sarcoma of the left ovary weighing $8\frac{1}{2}$ pounds. The right ovary presented a cyst the size of a hen's egg, but there was a small nodule of ovarian tissue at the upper pole. I excised the cystic part, leaving the nodule of ovarian tissue behind. The girl has since menstruated. In another case in which a small piece of ovary was purposely left, the patient has married and borne a child.

Five Cases of Ectopic Pregnancy.

Dr. HENRY C. COE: I wish to report five recent cases of ectopic pregnancy. Intra-peritonæal rupture took place in all and all but one of the patients recovered. None of the women presented any clearly marked evidences of extra-uterine pregnancy. It is interesting to note that in all but one case rupture took place at a time when menstruation was due and on two occasions this fact led me into error. It is probable that rupture is especially liable to occur when an expected period is due. In one case the woman was pulseless when first seen and remained so for twenty-four hours. She rallied after the use of infusions of saline solution and the operation was done thirty-six hours after rupture had occurred. The abdomen was full of blood and her pulse was 160. She would have bled to death had not a clot formed and partially arrested the hæmorrhage.

DISCUSSION.

Dr. WALDO: Speaking of the use of saline solution in these cases, it seems to me that the same effect can be produced by pouring the saline into the abdominal cavity as by injecting it under the skin or into a vein. I have lately employed it with excellent results in two cases. The first was one of double ectopic pregnancy, rupture having taken place in both—the first case of the kind reported, so far as I know. The

patient's life was undoubtedly saved by the saline solution. The second case was likewise one of ectopic gestation, although it was at first supposed to be appendicitis, rupture having taken place on the right side. The good effect of flushing the abdominal cavity with the hot solution is probably due to the stimulation which it causes as well as to the filling up of the vessels.

Dr. VINEBERG: I have recently incorporated in a paper a series of cases of ectopic gestation which I have seen during the past few years. In four of them menstruation had been regular. In one case rupture of the sac took place seventeen days after the last menstruation; in another, menstruation occurred at the expected time, lasted one day, and appeared two days later as a mere spotting. In looking up the literature I have found quite a number of cases reported in which rupture occurred at the time of an expected period or a few days before it.

Dr. PORTER: During the past summer I saw a very interesting case of this kind. The patient, a young married woman, was taken with sharp, colicky pains while out bicycle riding. A few hours before she had taken luncheon and drank a glass of cold beer, and the pain was attributed to some indigestible food which she had eaten. She was able to ride about eight miles further to the nearest hotel where she was seen by a local physician, who made a diagnosis of some digestive trouble, prescribed cathartics and sedatives, and put the patient to bed. I happened to be stopping at the hotel and was called in consultation that night to find the patient in a state of profound collapse. Although the woman was but slightly anæmic there were evidences of internal hæmorrhage. The abdomen was somewhat distended, but there was not sufficient local induration present to make the diagnosis positive. In the morning she was somewhat better. The bowels had moved, the abdomen was apparently less distended, and signs of shock had diminished. Later in the day I was hurriedly sent for and again found her in collapse, with all the evidences of internal hæmorrhage. I learned that she had menstruated regularly, although at the last period the discharge had been rather scanty. There was no history which pointed directly toward extra-uterine pregnancy. I had come prepared to operate, and did so under rather unfavorable conditions. Upon opening the abdomen I found it filled with an unusually large amount of blood. This was cleared out, the bleeding surface secured, and the abdominal cavity filled with hot saline solution. The patient rallied temporarily from the effects of the operation, but that night again went into collapse. Saline infusions were given, the patient rallied somewhat, but died the next morning.

Here was a case in which the first hæmorrhage had been checked by a localized clot.

Dr. VINEBERG: I would like to ask the President if he has ever lost any of these cases from septic peritonitis. I recall two instances in which the patients rallied from the loss of blood only to die forty-eight hours later of a septic peritonitis which was presumably present at the time of operation.

Dr. COE: I once operated unsuccessfully in a case which was complicated by a large ovarian abscess, which ruptured during the operation. I agree with the last speaker that the fact that these patients are unprepared for operation renders them especially liable to develop sepsis from without.

Case of probably Malignant Right Kidney; Chronic Nephritis of Left determined by Ureteral Catheterization.

Dr. LE ROY BROWN: Mrs. S. H., aged 28, married six years. Has had three children, the youngest being 9 months. She was sent to me with the following history, by her physician:

On September 8th she had a severe pain throughout the abdomen, especially in the left. During the following four days the urine was highly colored with blood, the amount being at times sufficient to form clots.

Her general condition, on being admitted to the hospital, was poor, having lost considerable flesh.

The examination showed both kidneys sufficiently movable to get a fair idea of their size. The right was twice the size of normal and tender, and the left apparently smaller than normal. At the time of examination the marked hæmorrhage had ceased, yet blood-cells were detected by the microscope.

An examination of the urine gave albumin and casts. Under an anæsthetic the bladder was found to be normal, there being only a slight suggestion of the trigon.

Catheters were quickly passed in both ureters and the patient put to bed, the urine from each ureter being collected in separate test-tubes. The examination of the urine from the right kidney gave casts, trace of albumin, and abundance of blood-cells, and what appeared to be organized tissue. That from the left kidney gave casts, albumin, and kidney epithelium, with what appeared to be uric-acid plates.

I report this case to accentuate the diagnostic value of ureteral catheterization. With a good light, a head-mirror, urethral specula, and

catheters, it is easily done and affords a positive knowledge of the condition of each kidney, not to be obtained in any other way.

In this instance it prevented my doing an operation which would have, in all probability, been fatal to the patient—that of removing the right kidney and throwing all the work on an already diseased left one. The exact nature of the organized tissue found in the urine from the right kidney was not accurately determined, since the specimen was lost after being sent to the pathologist. From the unusual size of the kidney, the presence of blood and tissue in the urine, I judge it to be malignant.

DISCUSSION.

Dr. PRYOR: I would like to say a word in regard to the diagnosis of appendicitis complicating pus cases. There is no difficulty in seeing through the vaginal incision any appendix which is adherent to the tube. In other words, if the appendix has become a pelvic organ, it is possible to see it through the vagina. If it is in its proper place, of course, it is not possible to see it through the vaginal incision, because when the patient is in the Trendelenburg posture the abdominal organs and intestines gravitate toward the diaphragm. I have not only often seen the appendix through the vagina, but have demonstrated it to spectators.

I recently had two patients, upon one of whom I did a vaginal and upon the other a suprapubic hysterectomy, and both did well until the second or third day after the operation. In each case it was found that the pelvis was clean but that the appendix had sloughed off, although at the time of operation it seemed to be healthy. In the second case the appendix was seven and a half inches long. The suprapubic case died without the complication being recognized. Profiting by that experience I saved the vaginal case by a midnight operation. I believe this sloughing to be due to the fact that the appendix has formed a false attachment to the tube and that when the latter is removed the appendix loses its nourishment and therefore sloughs off. I am at present trying to get an apparatus by which the appendix can be removed through the vagina. It can be seen in most cases after the uterus has been removed and in some cases while it is still *in situ*.

Dr. BRETTAUER: I would like to ask Dr. Pryor in what percentage of cases he has found the appendix to be a pelvic organ.

Dr. PRYOR: I cannot give you figures. If we regard the pelvis to be the brim of the pelvis, the appendix may be said to be a pelvic organ

when it is below the brim. When the focus of pus is high up I always look for the appendix and frequently find it. When the pus focus is low down the appendix is not likely to be involved.

Dr. COE: It seems to me that Dr. Pryor's cases illustrate one of the strongest arguments against the vaginal route. If abdominal section had been done the condition of the appendix would have been noted, and it could have been removed. I have come to the conclusion that if we aim simply to evacuate pus, the vaginal route should be employed, but if a thorough, radical operation is proposed, abdominal section is preferable.

Dr. VINEBERG: I was surprised to hear Dr. Broun say that the ureters were not catheterized a second time in the first case, because it would have been necessary to anæsthetize the patient again. I never anæsthetize a patient for the purpose of catheterizing the ureters. I have treated all kinds and classes of people, and I have found that a little cocaine is all that is necessary.

I would like to ask Dr. Broun how long the catheters were left in the ureters.

Dr. BROUN: An hour and a half.

Dr. VINEBERG: That would militate the result of the examination. If left in the ureter as long as an hour and a half the catheter would cause more or less irritation and bleeding; therefore, the fact that blood was found in the urine does not prove that the kidney was diseased.

In regard to the second case, last week I operated upon a case of double pyosalpinx and was obliged to remove the appendix. Had I operated from below I would not have discovered that the latter was in a diseased condition.

Dr. EMMET: We are very much in the dark when operating from below, while the operation from above offers an opportunity for inspection. It is, therefore, a question how long the operation from below is going to last. It is my opinion that the abdominal operation will be finally adopted exclusively on account of the advantages it offers in the way of inspection of the parts.

In regard to appendicitis as a complication in pus cases, this occurs not infrequently, and the diagnosis would be oftener made before operation if we would analyze more carefully the symptoms of our patients and take into account the various pains she complains of.

Dr. JARMAN: Speaking of appendicitis, I would like to inquire if any of the members have operated for appendicitis on a patient over sixty years of age. Dr. Tull has just told me that to-day he removed the appendix from a woman 62 years of age, and the condition calling

for operation had not existed more than six or eight months. I was under the impression that appendicitis rarely occurs in persons past middle age.

Dr. PRYOR: I think Dr. Agnew was older than that when he was operated upon for appendicitis.

Dr. CHARLES JEWETT: I know of a case in which the appendix was removed from a woman 70 years of age. She made a good recovery.

Dr. BROWN: In regard to the remark made by Dr. Vineberg, I would say that the catheters were left in the ureters for an hour and a half. The blood found in the urine was not due to any irritation caused by the catheters. Of course, the ureters can be catheterized without an anæsthetic, but, as a rule, at the Woman's Hospital we do this in combination with some other operation and it is, therefore, done while the patient is anæsthetized. In the case mentioned, however, the woman was too nervous to have let us do it with cocain.

Official Transactions.

JOSEPH BRETTAUER, *Secretary.*

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL
SOCIETY.

Stated Meeting, November 19, 1898.

The *President*, NICHOLAS SENN, M.D., in the Chair.

*Chemical and Microscopical Examination of the Urine, with Special
Reference to the Diagnosis of Cystitis.*

BY JOHN A. WESENER, M.D.

(See page 11.)

Instrumental Examination of the Bladder.

BY WILLIAM T. BELFIELD, M.D.

(See page 14.)

*Instrumental Examination of the Bladder in the Diagnosis of Cystitis
in the Female.*

BY M. L. HARRIS, M.D.

(See page 17.)

Medical Treatment of Cystitis in the Female.

BY JAMES H. ETHERIDGE, M.D.

(See page 17.)

Surgical Treatment of Cystitis in the Female.

BY ALEXANDER HUGH FERGUSON, M.D.

(See page 20.)

The Prevention of Cystitis in the Female.

BY G. A. KLETZSCH, M.D.

(See page 22.)

DISCUSSION.

Dr. F. KREISSL: I will make but a few remarks in reference to some of the points which have been brought out in the very able papers read this evening. I understand it is commonly believed that the coli bacterium is present in acid urine only, while the other pathogenic micro-organisms, like diplococcus urea liquefaciens, the proteus Hauser and staphylococcus pyogenes aureus, may be found in the alkaline urine. Besides my own experience to the contrary, I have read quite recently a very interesting report on sixty-two cases of infectious diseases of the genito-urinary tract presented to the British Medical Association in Edinburgh by Melchoir who was quoted repeatedly to-night. I will give you some of the important points of that paper. He divided the cases into three groups, the first one, which is extremely rare, as genuine bacteriuria, the second, cases in which the principal seat of the infection is the bladder or has originated from there, as cystitis, and cysto-pyelo-nephritis, and the third in which the origin of the disease must be sought in the upper urinary tract in the kidneys or the pelvis. In the three female patients of the first group, bacterium coli was found in the acid urine; in the fourth case of a young man afflicted with chronic urethritis and prostatitis, symptoms of acute cystitis set in after a sexual excitement and the acid urine contained nothing outside of the diplococcus ureæ. In the second group, which is the largest, thirty cases of cystitis are reported, and seven of cysto-pyelo-nephritis. In all these thirty-seven cases was the bladder the principal seat or starting point of the infection, extending to the pelvis later on? Twelve of the cases occurred in women, the rest in men.

The bacteria found in the urine are classified as follows: Bacterium coli sixteen times, in pure culture fourteen times; diplococcus ureæ ten times, in pure culture eight times; proteus Hauser six times, in pure in pure culture.

Among the thirty-seven cases of cystitis there have been sixteen with ammoniacal and twenty-one with acid urine. In fifteen out of the twenty-one cases, bacterium coli was present in one gonococci, in the remaining five cases urea decomposing bacteria exclusively. Most of these cases

could be traced to an infection by urethritis, infection caused by instrument, carcinoma, or from organs in the vicinity of the bladder. In only five of them (all in women) the disease apparently started spontaneously, but could be traced to an auto-infection from the vulva and vagina. This can be easily explained by the almost constant presence of the coli bacterium in the female genitals and the relative shortness, width and deficiency of the sphincter apparatus of the female urethra. This alone should give a contra-indication for colpocystotomy.

The eleven cases of the third group comprised four of tuberculosis of the urinary tract, three of colipyelitis with consecutive cystitis, one of colicystitis with renal infection, and three of infection with urea decomposing bacteria. The infection with the coli bacterium was not due to instrumentation, but to constipation, diarrhœa, or some other cause, weakening the tissues and predisposing them for the invasion of the bacteria by way of the blood circulation or the lymphatics. In one case, bacterium coli was observed in the first examination, whose place in the still acid urine was found to be taken by the diplococcus urea eight days afterwards.

Genuine gonorrhœal cystitis is extremely rare; I recollect one case reported by Wertheim in which the gonococcus was stained in a piece of tissue taken from the bladder-wall; another case by Lindholm in 1896, and two more by authors whose names escape my memory. In all other instances, the examination and culture tests revealed a mixed infection.

A very rare complication of chronic gonorrhœal cystitis, which Kolischer in Vienna, has observed in the female bladder, is what he calls infiltrating ulcerating cystitis. He found with the cystoscope peculiar brown spots with an elevation in the central part and pus on top of it difficult to remove. After succeeding in doing this, the deep ulcer and the infiltrated margin was plainly visible and could be felt by bimanual palpation. He curetted the ulcers with his own operation cystoscope.

A point of importance which was not mentioned this evening, is the residual urine. It should be taken care of because it is a source of constantly keeping up cystitis and favoring multiplication of micro-organisms. Among the many internal remedies in cystitis urotropin was not mentioned. It is not effective in gonorrhœal cystitis, but has given much satisfaction in ordinary cystitis. While using it in a great number of cases, I saw the bacterium coli and others materially decrease and even disappear, but have found them reappearing again when urotropin was discontinued.

Casper, in a recent publication, says that the bacteria can be per-

manently destroyed provided urotropin is administered long enough; I do not know what he means by "long enough," but while using it it will prove a valuable adjuvant to the local treatment of the bladder. In regard to the latter, I wish to emphasize again that I consider the nitrate and lactate of silver the most valuable local applications in ordinary and infectious cystitis, but they should never be used in higher concentration than one to one-thousand or perhaps five-hundred and then not more than an ounce at a time. Instillations of ten or twenty drops of a five or ten per cent. solution are not only extremely irritating and painful, but, in my opinion, not effective. Such solution may be applied to a small area by the uretroscope, but they will not come in contact with the whole diseased surface when the bladder is empty and the wall contracted.

The Harris instrument I consider an eminent innovation for the examination of the bladder and in certain cases for obtaining the urine of the kidneys separately. It has its limits and drawbacks like the cystoscope, but it will give satisfaction in cases where the cystoscope fails, for instance, cases in which it is impossible to find the vesical end of the ureter or to enter it with the catheter, or cases in which the capacity of the bladder is so small that it is impossible to inject the amount of fluid or air necessary for a satisfactory cystoscopic examination.

Dr. E. C. DUDLEY: We are indebted to the President for having introducing this most important subject. Of all inflammatory affections which the practitioner is called to treat none gives less satisfaction in therapeutics than cystitis. The ground has been so well covered by the papers and discussion that I have little further to offer. I am glad however in compliance with the President's request to say something relative to the subject of colpo-cystotomy especially after the sweeping condemnation which Dr. Ferguson has just given to this operation. In the first place Dr. Ferguson remarks that he has only performed the operation in a single case and inasmuch as he would hardly generalize from a single case it may be inferred that his condemnation of the operation is based upon *a priori* reasoning. Such reasoning may be disregarded in the light of experience. The operation would ordinarily not be indicated in acute cystitis but in the chronic forms of the disease where there is great contraction and thickening of the bladder walls, when extensive ulcerative changes have taken place it offers the only adequate means of relief. I point to many cases of my own and many more which have occurred in the practice of others. They were cases of extreme, long-continued and unrelieved suffering in which colpo-

cystotomy by giving the bladder complete rest, furnished immediate and unspeakable relief. The operator has two objects: first, palliative; second, curative. In a certain proportion of cases the disease in the bladder and in the upper zones of the urinary tract is so extensive that the operation can be only palliative; that is, an anatomical cure is sometimes impossible. In some of these cases the bladder is contracted to the capacity of perhaps one-half ounce. No one would think of making the secondary operation for the closing of the fistula under such conditions. In many other cases the artificial opening may be only temporary. It gives the best opportunity for direct local treatment to diseased parts of the bladder and for a most effective vesical douche which can be thrown in through the urethra and allowed to flow out through the fistula and vagina. I have in mind numerous cases of chronic cystitis which have been cured by this method and in which upon subsequent closure of the fistula, the cure, if not anatomically complete, was at least symptomatically satisfactory. In some of these cases the very much contracted bladder finally resumed its physiological caliber.

I desire to speak in the strongest terms against indiscriminate vesical irrigation. Washing out of the bladder is properly recognized as a most valuable procedure, but ordinarily it should not be done until after a careful cystoscopic examination. This is because in many cases the disease is localized and therefore requires direct treatment to the diseased portion of the bladder mucosa. In such cases it may be important to make a strong application to the diseased part only and to leave untouched the remainder of the mucosa which is not diseased at all. To state the matter in another way, an irrigating fluid in order to be strong enough to be effective upon the diseased structures might be not only unnecessary, but even destructive to the healthy portions. Great and lasting injury may be inflicted upon the bladder by the blind application of intra-vesical treatment. It is most common, for example, to find the whole disease confined to the region of the trigone. This might call for definite, positive local treatment to that region. General vesical irrigation might not only fail to relieve the local irritation, but might do great injury to the remainder of the bladder mucosa.

One cannot emphasize too strongly the necessity for asepsis for intra-vesical therapeutics.

Extreme dilution of the urine which results from the drinking of large quantities of water and the consequent great increased quantity of fluid passed through the bladder is an excellent substitute for vesical irrigation; it is in fact, a natural and often effective method of irrigation.

Dr. ALBERT GOLDSPOHN: I have been much pleased with the presentation of the ætiology, pathological anatomy and modern means of diagnosis of actual cystitis. But in a considerable experience among women we meet with cases not infrequently who have all the symptoms portrayed by Dr. Belfield, and yet they have not really cystitis. No evidences of cystitis can be found, nor of inflammation anywhere in the urinary tract; either in the kidney, its pelvis, the ureter, or bladder. These patients will say that they have to urinate very often in the daytime, possibly every fifteen minutes, and that when they are on their feet they are never free from the desire to urinate. After they have gone to bed and have been there for two or three hours, the whole difficulty subsides until they assume the erect posture or their occupation. This one clinical observation is strikingly in contrast with the ordinary experience of actual cystitis. A man or woman with actual cystitis will have frequent urination and distress, not quite so badly with lying down, but it will continue during the night and not subside. Right here is a valuable index clinically in regard to what is probably the matter when we have these symptoms before us. I do not think that this condition can be explained on the ground of a para- and peri-cystitis, as mentioned by Dr. Senn, because I have seen these symptoms frequently vanish almost instantly, certainly in less than a day, *i.e.*, in less time than any actual inflammatory process can subside, by rectification of a retroverted uterus. Nor do I think these cases are accounted for by traction on the supposition that the displaced uterus pulls on the bladder. But I do think that so-called irritable bladders, which we must admit do exist, and which pathologists are inclined to belittle, are due to nervous irritation and radiation, and may be associated with any displacement, hyperæmia or inflammation of the internal generative organs. As we cannot deny a purely irritative nervous dyspepsia, of pelvic origin, which is of common occurrence to any gynæcologist of experience, so we must also recognize a reflexly irritated bladder, notwithstanding the protests of *some* neurologists. I speak of this not to belittle efforts at diagnosis. Of course, all of our diagnostic means should be exhausted before we come to any conclusion. I have cause to mention this matter from observation in consultation with general practitioners who assumed cystitis to be present from the symptoms manifested. In some such cases the patients have received vesical injections and drugs internally that were certainly very detrimental, because there was no cystitis present.

Another point with reference to the local antiseptic treatment of a bladder that is actually infected. During the last two years I have ob-

tained very much more positive and quicker results from irrigations of the bladder with a one-fourth to one-half per cent. solution of oil of cloves in sterilized water than from the orthodox, customary saturated solution of boric acid. The cases have not been so frequent where the trouble would be improved to a certain point, and beyond that point it would not improve and would require the use of nitrate of silver injected into the base of the bladder or bottom of it where the trouble usually lingers. With the use of oil of cloves I have seen rather uniform total removal of sepsis from the bladder without recourse to nitrate of silver.

Dr. WILLIAM CUTHBERTSON (by invitation): I have listened with a great deal of pleasure to the different phases the subject of the discussion has taken. It seems to me, however, that the subject of cystitis in the female has been discussed from a purely pathological standpoint. We all know that cystitis in the female is a very common and distressing disease. I am of the opinion that all the cases of cystitis cannot be traced to a purely pathological cause, and in support of my statement I would like to relate a case which I saw about a year ago. A woman, 47 years of age, tall and spare in build, complained of a distressing cystitis. She urinated every fifteen to twenty minutes. She further complained of what she claimed to be hemorrhoids. Examination of the rectum showed that she was suffering from a rectal fistula; an examination of the urine did not disclose any pathological condition whatever, either from pus microbes, or other forms of pathogenic bacteria, or from tuberculosis. I came to the conclusion that in all probability this distressing cystitis might be caused by the fistula which existed. I operated on the fistula, cured it in the usual length of time, still the cystitis persisted. On closely questioning the patient in regard to her habits, I found that she was extremely spare in the use of fluids; she drank little or no water during twenty-four hours, and sparingly of tea at meal-times. I should say that I resorted to the use of internal medication for the cure of the cystitis, and had the bladder washed out with antiseptic solutions without any relief whatever. After putting her on a copious liquid diet, the cystitis immediately began to disappear, and in a short time she was cured altogether without the use of any further medication.

The urine in this case was persistently hyper-acid.

I am therefore of the opinion that there are numerous cases of cystitis in the female which are purely functional, and for which no pathological causes can be found.

Dr. CHARLES S. BACON: This discussion ought not to close without

some attention being called to one point that has been omitted. The ætiology, pathology, and diagnosis of cystitis have been fully gone over, still some of us may go away with the feeling that the therapeutics has not been adequately dwelt upon. The principles of surgical treatment have not been laid down with sufficient clearness. While considerable has been said with reference to the surgical treatment, a good deal pertains to the male, which has no place in this discussion, and other points were brought out which pertain to extraneous subjects, such as tumors, calculi, etc. The condition of cystitis, of infection of the bladder, and the principles of therapeutical management ought to be a little more dwelt upon. Considerable has been said concerning irrigation of the bladder, treatment by curettement, with caustics, strong applications of nitrate of silver, etc., but in an indefinite way. Why should these applications be made; how should they be made, and how often should they be made are the practical points we ought to discuss. I simply rise to call attention to this lack and suggest that the error seems to have prevailed that these applications, antiseptic irrigations, etc., are made to the interior of the bladder for the purpose of destroying the infective agent. This is not true. The time has long passed since we hope to destroy the infective agent in any form of infection by antiseptic applications. The infective agent is not located so that it is reached in any such way. We cannot destroy the colon bacillus, the staphylococcus, or any other infective germ by means of a solution of boric acid. We know in the treatment of gonorrhœa, either of the vagina, of the urethra, of the cervix or uterus, that antiseptic applications are sometimes of doubtful value. Occasionally they do more harm than good, and I believe we are coming more and more to appreciate the fact that a cure is effected by Nature itself, and that we simply assist Nature. Is it not the case in the treatment of bladder infections? Ought we not to pay more attention to putting the patient in a proper condition for the reactive forces of Nature to work? What are those conditions? One of the most important is to relieve the congestion, the hyperæmia of the pelvic organs, the bladder, and of other organs. This may be done by keeping the patient in the horizontal posture as much as possible, and in other ways stimulating the circulation so as to do away with the hyperæmia of the bladder.

One other point: If we make irrigations of the bladder, they must be for the purpose largely of drainage. By having the patient assume occasionally a position which will effectively drain the bladder, or particularly the infected parts, namely, by having her assume the prone

position or the knee-chest position, we may perhaps attain the same results.

Dr. L. L. McARTHUR: I would like to say a few words on this subject, but with especial reference to the instrumental part of it. Much as I admire the ingenuity of a man who develop an instrument like that of Dr. Harris, and grateful as I am to him for the benefit that has accrued to me through its use, I still think we have had the instrument in use long enough now to begin to appreciate its uses, to recognize its limitations, and to avoid drawing hasty conclusions from data obtained through its use. I think there are three sources of possible error in the use of the Harris instrument. First, Dr. Harris states that we can differentiate between cystitis and pyelitis by this instrument, when properly applied, washing out the bladder, obtaining normal urine on one side, and purulent urine on the opposite side and from this deciding whether we have a pyelitis or cystitis!! Who can say that such a pyelitis is not the result of an ascending ureteritis; that there does not already exist a cystitis, and the same process has extended, causing a pyelitis in that way? Secondly, papillomata of the bladder are prone to locate themselves about the ureteral orifices. They bleed. Can we conclude from the use of this instrument that if we find no blood in one bottle, and bloody urine in the other bottle, that it came from the kidney or the papilloma of the bladder? Thirdly, in a case of purulent urine in which the symptoms were referable to the kidney I wanted to be sure that I had kidney disease to deal with before cutting into the man's side. I utilized this ureteral catheter to determine this. I washed out the bladder and drew purulent urine from one side, and normal urine from the other side. I took pains to draw enough urine to determine the amount of urea in the urine (2 per cent.) and to examine the sediment on the well side as well as the sediment in the other purulent urine. The man died. It was found that the kidney on the diseased side had been doing all the work, while on the opposite side there was a small rudimentary kidney. I had only determined qualitatively that it was normal urine, and had failed to determine that the kidney was capable of doing the work, supposing the other was injured in the operation, enough to be thrown out of temporary use. In the removal of the calculus possibly this occurred. At all events, no urine was secreted. Four ounces were secreted thirty-six hours prior to death. The conditions we found were those of simple anuria with a rudimentary kidney on the side which gave enough urine to determine it was normal.

Dr. JOSEPH B. BACON: As the hour is late and the subject has been

quite thoroughly discussed, I shall only ask a few minutes of your time. You are all aware that it has become the fad with many gynæcologists to try and do all pelvic work through the vagina. They tell their patients that an abdominal scar is an unpleasant thing to possess and too often omit to remind them of the sequelæ of an unfinished operation. They are also anxious to get the famous one hundred cases on record to add to the statistics, when that is to be finally finished for the use of future gynæcological historians. In watching the operations one often sees two assistants, each holding two vaginal retractors, one pair stretching the vagina antero-posteriorly, the other laterally to the full limit of the bony pelvis. Sometimes these operations consume one, two, or more hours. Now, imagine the bladder wall pressed firmly over the end of the anterior retractor, the bladder attached to the pubis and uterus. The operator with a pair of volsellum forceps draws down the uterus, thereby putting the mucous surface of the bladder wall upon extreme tension, that must often abraid or tear it. There can be no doubt of this. We now have ample proof that pathological bacteria are often present in otherwise normal urine; when the mucous membrane is intact no cystitis results, but any abrasion gives the opportunity for infection. With the common practice of vaginal operations for pelvic disease, we may look for more frequent cystitis as a complication following these operations. I desire to call your attention to this danger from the use of anterior retractor in prolonged operations. Doubtless we have censured ourselves, assistants, or nurses for a cystitis, believing it to be due to an improperly sterilized catheter, when the trouble all accrued at the time of the operation from contusion or tearing of the mucous membrane when we were least thinking of such an accident being possible.

Dr. LESTER E. FRANKENTHAL: I would like to add a suggestion with reference to the passing of the catheter. In many instances it is impossible to so cleanse the external genitals and urethral meatus as not to infect the bladder upon the introduction of the catheter, so much so that of late I have been in the habit of instructing nurses, after having disinfected and cleansed the parts, to pass the catheter only about a centimeter into the urethra, having connected it with the irrigator filled with boracic acid solution and irrigate the urethra during the passage of the catheter into the bladder. Inasmuch as in many cases the urethra itself contains micro-organisms, they are carried into the bladder through the catheter. I recommend turning the patient on the abdomen where catheterization is necessarily continued for any length of time so that there shall be no residual urine.

A word or two in reference to what has been said by Dr. Bacon. I have seen many men do vaginal operations, and I have done a fair number of them myself, and I have rarely used a speculum on the anterior vaginal wall. If I have used it on the anterior vaginal wall, it was only after the anterior peritoneum was opened and the bladder had been dislocated upward out of the pelvis, so that this viscus could not be injured. That is why the ureters are kept away from the field of operation.

Dr. M. L. HARRIS: I simply wish to answer the points brought out by Dr. McArthur as to the errors made by my instrument and the deductions which he draws. I did not say that the instrument would indicate whether the cystitis or pyelitis was primary, but it would show the existence of pyelitis and stop a useless treatment of cystitis when pyelitis existed. It will show the presence of pyelitis with cystitis by a comparative analysis of the urine from the kidney and from the bladder. As to the error in concluding that the kidney was all right, it was not an error of the instrument, but an error on the part of Dr. McArthur. I have pointed out elsewhere in a paper, how to figure the functional capacity of the kidneys by the use of the instrument, and in every case where operation is to be done on a kidney the functional capacity of each kidney should be figured out. It is easily estimated, and with the use of the instrument a proper analysis can be made, and the functional capacity of each kidney easily determined.

Dr. DUDLEY: How do you determine the functional capacity of the kidney?

Dr. HARRIS: We estimate the amount of urine and urea passed per minute per kilogram of weight. This is $\frac{16}{1000}$ c. c. of urine per kilogram per minute, or $\frac{8}{1000}$ c. c. per kilogram per minute for each kidney, containing two per cent. of urea.

This we take as the normal standard. Now, all we have to do is to use the instrument a definite length of time and obtain thereby the quantity of urine passed. This quantity we divide by the time, and the weight per kilogram, and multiply the quotient by the percentage of urea. This gives the functional capacity of the kidney. This obtains where we use the instrument for a period of thirty minutes. The kidneys do not act synchronously nor uniformly. If we make an examination for ten or fifteen minutes, we may find the urine from one side is three or four times greater in quantity than that obtained from the other side, but if the examination be continued for thirty minutes, the two sides will be about equal, if both kidneys are normal.

Dr. DUDLEY: We know frequently that almost no urine is secreted

during thirty minutes or during three-quarters of an hour, and then during the same length of time a great deal is secreted.

Dr. HARRIS: That is what I have tried to point out.

Dr. DUDLEY: The question arose whether your observations were sufficiently numerous to warrant the general proposition that thirty minutes would be long enough.

Dr. HARRIS: I have made analyses in sixty cases, following them out in that way, and have not found a case where the urine was not obtained within thirty minutes, unless there was disease of the kidney.

Dr. ETHERIDGE: Do you always keep the catheter in thirty minutes?

Dr. HARRIS: Yes, I do, as a rule. I have fixed that time from my experience so far.

Dr. DUDLEY: My object in asking for an explanation is to get at the length of time really necessary to draw off the urine in these cases.

Dr. HARRIS: I have never yet examined a case where a kidney failed to secrete for thirty minutes, if secreting at all, the longest time I have met so far being 13 minutes.

Dr. DUDLEY: I am surprised that the necessary time is so short.

Dr. HARRIS: More extensive examinations may show us that it will be necessary to increase the time in some cases, but so far, it has proven to be long enough.

Dr. DUDLEY: Would you unhesitatingly remove a kidney on the evidence of thirty minutes?

Dr. HARRIS: If we had a normal functional capacity of the right kidney, for instance, and the left kidney was involved, I would not hesitate to operate.

Dr. ETHERIDGE: Would not disease of one kidney exaggerate the amount of urine from the other kidney?

Dr. HARRIS: If one kidney is inactive, the secretion from the other kidney if normal, will be correspondingly increased. I have examined a number of such cases where the functional capacity of one kidney ran up to one and nine-tenths, and one and six-tenths, showing that it was doing practically the work of two kidneys, i. being taken as the normal functional capacity of each kidney.

Official Transactions.

C. S. BACON, *Editor of Society.*

TRANSACTIONS OF THE WOMAN'S HOSPITAL SOCIETY.

Stated Meeting, held October 25, 1898.

The President, PAUL F. MUNDÉ, M.D., in the Chair.

Appendicitis complicating Disease of the Annexa.

Dr. LEROY BROWN: I want to report to the Society this evening three cases, all very much alike, and I do so with an object, namely, to promote discussion of a topic well worthy of our attention.

The first case is that of Mrs. G., 27 years of age, seen by me in June, 1897. She complained of marked pain on the right side of the pelvis and to a less degree on the left. There was a double pyosalpinx with a great deal of exudate. I advised hysterectomy and this was done by the vaginal method. Recovery was uneventful and the patient was discharged from the hospital in good condition. I did not see her again until this summer when she was sent to me suffering from appendicitis. I operated and found the abscess to be post-cæcal and with adhesions all around so dense that it was impossible to sever them without tearing the intestines. Under drainage the patient made a good recovery.

The second case is that of a young girl, 21 years of age, unmarried, who was sent to me by a physician because she had pain on the right side low down in the pelvis. On examination I made out what appeared to be a tubal abscess on the right side, but nothing could be felt on the left side. I advised the removal of one tube and ovary, or of the uterus and adnexa, if this were necessary. Upon making posterior section I found the uterus and both appendages so diseased that I removed them. Nothing was left behind. Convalescence was uneventful, and the scar was in good condition when the patient left the hospital in July last. Two weeks ago she came to me on account of a sinus which had made its appearance in the scar. A probe could be passed but a short distance into this sinus and I had the patient put under ether in order to make a more thorough examination. I then incised the vaginal vault and gently explored the pelvic cavity with my finger. Everything had healed up well on the left side, but on the right I was able to pass a large sound well up for a distance of about three-and-a-half inches. No foreign body was found and nothing was done save to insert a couple of drainage-tubes.

The third case is one at whose operation I assisted yesterday, the operator being a man of undoubted ability and experience. Some time during the summer he had done a posterior section on the patient for the relief of pain. This failed to relieve her, however, so she returned to the hospital. Yesterday he did a posterior section again with the intention of removing the uterus if necessary. During the operation he decided to open the abdomen, and one of the first things which presented was a long appendix, badly diseased, which he removed. The appendages were healthy.

I report these cases because I think it is time that we, who have been in the habit of doing vaginal work because the patient suffers less from shock and because she is thus spared the unsightly scar upon the abdomen, should begin to think whether these cases are not best operated upon from above. In those cases in which there are pyosalpinx and pain on the right side, would it not be wiser to open the abdomen and investigate the condition of the appendix in order that the patient be saved from another operation later on?

In the first case, judging from the dense adhesions which existed, the woman must have had appendicitis in a quiescent state at the time I did the vaginal hysterectomy for double pyosalpinx. I did not discover this fact because I operated through the vagina.

In the second case—that in which a sinus formed some weeks after operation—it is surmised that the appendix is the cause of the trouble, for it can be accounted for in no other way.

In the third case the diseased appendix was probably the cause of a great deal of the pain of which the patient complained and for the relief of which posterior section was unsuccessfully done. If the abdomen had been opened the condition of the appendix would have been discovered and the second operation avoided.

DISCUSSION.

Dr. GEORGE H. MALLETT: At one of the meetings of this Society there were reported a number of cases which very much resemble those mentioned by Dr. Broun. Among them was a woman whose tubes and ovaries I had removed and who returned to me a year later complaining of pain in the left side. Upon examination I found a fluctuating mass in the left broad ligament. This was opened and at least half a pint of bloody serum evacuated. The cavity was packed with gauze and the patient did well until the tenth day when there was a rise of temperature, and the pain which had heretofore been on the left side made its ap-

pearance on the right. I operated and found the appendix completely surrounded by an abscess. It is a question whether it is best to operate from above or from below in cases of pelvic disease. I have about given up the vaginal operation for the abdominal except in cases in which pus is to be evacuated. In cases of pyosalpinx the advantage gained by inspection of the appendix is worth the additional shock incurred by opening the abdomen.

Dr. HORACE TRACY HANKS: I am very glad Dr. Broun has brought up this subject for it is one which we must discuss in order to lay down definite rules as to whether the abdominal or vaginal operation is the better. So far as my experience is concerned, I am morally certain that in half a dozen cases in which I have attempted to operate from below, I have not succeeded so well in curing the patient as I would have done had I opened the abdomen. One of the rules which I have adopted is never to do a vaginal operation unless I can map out clearly the limits of the exudate and be quite sure that the ovary and tube are free from the appendix. I am of the opinion that two years hence we will do far less vaginal work than is now being done. I am gradually giving up the vaginal operation because I find I get better results when I operate from above. If we would all follow the rules laid down by Pryor in regard to vaginal work, we would be better able to inspect the pelvic organs; but there are few surgeons who do the work as he recommends it should be done. Consequently, the best surgeons are turning to the abdominal operation when the extent of the disease in the pelvis is not well determined. When there is inflammation about the appendix there is no question that it is better to attack it from above. We are now getting better results from our abdominal work, for we are learning how to treat the pedicle and how to tie ligatures. We are using less silk and more catgut, and we close the wound in the abdomen more methodically and more scientifically than we did in the past.

Dr. J. D. BISSELL: Four years ago I removed an ovarian cyst the size of an egg, leaving a portion of the ovary, from a case in which a diagnosis of appendicitis and floating kidney, respectively, had been made. The appendix was found normal. Two years later the patient ovary and appendix to be badly diseased.

Dr. E. E. TULL: It is frequently found that the appendix is involved in cases of pelvic disease. I have seen a number of such cases. In regard to the abdominal *versus* the vaginal route, I much prefer the former although at one time I was enthusiastic upon the subject of vaginal work. I would limit the operation from below to those cases in which the uterus is fixed, to those in which pus low down in the

pelvis is to be evacuated, and to those rare cases in which the pelvic cavity is entirely shut off from the abdominal cavity. For conservative work and removal of the appendages, it is much better to operate from above.

Dr. CLEMENT CLEVELAND: During the past few years I have been in favor of the vaginal operation, and I believe that when it is possible to do hysterectomy from below, it is better for the patient in every particular. In cases in which the appendix is involved it is a question whether the abdominal route is more advisable. During the past six months I operated upon two cases in which there was pelvic disease and appendicitis. I removed the appendix through the usual incision and then did a vaginal hysterectomy afterward. Recovery followed in spite of the double operation. To my mind abdominal hysterectomy is a very serious operation; it is attended by much more shock than that which follows the vaginal operation, and for this reason alone I would prefer the operation from below.

Dr. ROBERT BANCKER TALBOT: I have always been in favor of abdominal hysterectomy, for the reason that in this operation we can see what we are doing. If necessary, we can drain through the vagina after the abdominal operation.

Dr. PAUL F. MUNDE: One of the most difficult points in gynæcological surgery which we are called upon to decide is the question as to whether the abdominal or vaginal route should be employed in cases of pelvic disease. My own views are as follows: When I wish to remove the tubes or ovaries, whether for purulent or for cystic, and whether free or adherent, I employ the abdominal route; also when a large fibroid uterus is to be removed. When I wish to open a deep-seated pelvic abscess or effusion of blood, whether intra- or extra-peritoneal, or when a small uterus is to be removed, I prefer the vaginal route.

When panhysterectomy is to be done I employ the vaginal method except in cases of large fibroid tumors which can be more easily removed through the abdomen; but it is a question in my mind when panhysterectomy is indicated. In cases of diseased appendages, I am not in favor of this operation as a rule. Indeed, I have never advocated the procedure, and I learn that some of the men who formerly employed it, notably Jacobs, have more or less abandoned it. The latter no longer extirpates the uterus through the vagina for cancer.

In regard to involvement of the appendix in disease of the pelvic organs, this is quite common. One may expect to find the appendix adherent to the tube if there is inflammation upon the right side, es-

pecially if it is of long duration. I once made the usual incision to open what I supposed was an appendicular abscess and found it to be an ovarian abscess which was attached to the right iliac fossa. In another case I opened the posterior vaginal vault in a case of pelvic hæmatocele and a seven-inch appendix rolled out. I agree with Dr. Cleveland that if disease of the appendix is suspected, it is best to make an incision at McBurney's point in order to remove the appendix, and afterward do whatever is necessary to the appendages through another incision, abdominal or vaginal.

Dr. GEORGE T. HARRISON: It is perfectly feasible, I believe, to bring the appendix into view and remove it through the posterior cul-de-sac. However, I would prefer to cut down over the organ and remove it in the usual way. In regard to the choice of methods to be employed in cases of pelvic disease, I prefer the abdominal operation, especially if many adhesions are present. Of late, there are many who insist that the operation through the anterior cul-de-sac presents a great many advantages.

Dr. BROWN: To my mind we cannot advocate any one method. We all know that the vaginal operation carries with it less shock than the abdominal, yet there are certain cases which come to us in which we get better clinical results if we operate from above.

Ovarian Cyst and Uterus.

Dr. MALLETT: This specimen was removed from a patient, 40 years of age, who has suffered many things at the hands of many doctors. The cervix has been repaired twice; the uterus twice curetted, and a laparotomy performed. At the latter operation, in February last, the left tube and ovary and the right tube were removed and the uterus suspended. Since that time the patient has complained of pain and flooding and has been confined to her bed during the greater part of the time. Upon examination I detected a mass on the right side and advised operation. As the patient would not submit to another laparotomy, I opened the posterior cul-de-sac and removed this cystic ovary together with the uterus. The patient made a good recovery. This is an example of conservative surgery. The ovary had evidently been left in to prevent the occurrence of the nervous phenomena which usually follow the artificially produced menopause. In spite of this, the patient had all of these symptoms. I have left in one ovary or a portion of an ovary in a number of cases, and I have found that the patient complains of pain immediately after operation. Menstruation has persisted in all

but two of the cases and two of the patients have borne children. The result in this case, however, shows that it is not always well to leave an ovary, even although it be apparently healthy, when there has been disease of the opposite one.

DISCUSSION.

Dr. J. N. WEST: Four years ago I operated upon a patient, removing both tubes, one ovary, and part of the other. She made a perfect recovery, has menstruated with more or less regularity ever since, and has not suffered from the unpleasant symptoms referred to.

Dr. MUNDE: I have seen many cases in which the ovaries were removed years ago and in which no disagreeable symptoms appeared and in which there was absolutely no disturbance of the normal functions except those of menstruation and conception. Doubtless many of the members have seen similar cases.

Dr. TULL: Five or six years ago I removed both tubes and ovaries from a woman for double ovarian cyst and small fibroid of the uterus. Since that time atrophy of the vagina has taken place, and the woman still suffers from all the symptoms of "change of life" which I promised her would last but a year or two. This has impressed me with the fact that, in cases in which there is any choice, it is best to leave the appendages of one side in order to prevent these nervous phenomena. This is especially desirable in cases in which the uterus is removed. I am convinced that the ovary has an important function beside that of ovulation.

Dr. HANKS: I would like to suggest to Dr. Tull the advisability of treating such cases with ovarian extract. According to some of the recent German medical journals, this is being used abroad with the most excellent results. The removal of both ovaries in young women is to be deprecated because it is attended by the most troublesome symptoms, to say nothing of its influence upon the psychical economy.

Puerperal Eclampsia.

Dr. HARRISON: I would like to bring to the attention of the Society a totally different topic, one of the most important in the whole range of obstetrics, namely, puerperal eclampsia. During the past ten years the etiology of this disease has been under discussion and it has been proven that it is almost always associated with albuminuria; it has therefore been assumed that the renal changes are the cause of the

disease. It seems to me that this is taking too narrow a view of the subject—eclampsia is not uræmia. The following case would seem to show that albuminuria is not the cause of eclampsia. The patient was in her fifth pregnancy and early during gestation developed disturbance of the digestive tract and had a persistent diarrhœa. Labor was expected to occur during the latter part of October. I did not see the woman during September as I was out of town, but was sent for last Sunday. She then complained of headache and intense pain in the stomach, followed by vomiting. There was some swelling of the lower extremities and œdema of the face and I detected at once that she was on the verge of an attack of eclampsia. I learned that the patient had been passing large quantities of urine but that the diarrhœa which persisted during the whole of pregnancy had ceased upon the preceding day. I returned to my office to make preparations to deliver the patient, but was hurriedly sent for and found her in a convulsion. She recovered from this sufficiently to talk to me but soon went into another. The os was dilated, and the bag of waters formed. I performed version and delivered a dead child. The patient's heart gradually failed and she died an hour or two later without recovering consciousness. A pint of urine which was drawn off during delivery was found to be loaded with albumen. In albuminuria the urine is as a rule entirely suppressed or greatly diminished in quantity. According to our present knowledge we must regard eclampsia as due to a toxæmia and not to uræmia. The functions of the liver, intestinal tract, kidneys, and skin are alike disturbed. Everything seems to confirm the theory that phenomena of the disease are caused by the formation of a poison in the blood, and that the renal function, as well as that of the liver, is affected *secondarily* and not *primarily*.

DISCUSSION.

Dr. BROWN: I thought it was a well recognized fact that in many cases of puerperal eclampsia the urine is without albumen and that the disease is due to a toxæmia, the degree of which is measured by the more or less small amount of urea thrown off by the kidneys. Therefore it is my habit to estimate the amount of urea as well as the amount of albumen. Failure to do this is due to the fact that the great significance of the amount of urea excreted is not recognized. During pregnancy, and especially during the latter months, the urine should frequently be examined for urea as well as albumen. Patients who secrete a great deal of urine do not as a rule have eclampsia.

Dr. HARRISON: In 1896 Virchow declared that the renal changes in eclampsia are too insignificant to permit any one to form an opinion as to the relation they bear as a cause of the disease—in other words, to afford a basis on which to found a theory of the origin of eclampsia. It is a fact that patients who are the subject of interstitial or parenchymatous nephritis do not have eclampsia when they become pregnant, and yet they are the ones who have diminished urea. The case cited by me is a beautiful illustration of the fact that a woman can secrete an abundance of urine during pregnancy and still develop eclampsia, and it teaches us that prophylaxis is most important and that pregnant women should be closely watched, in order that appropriate remedies may be applied in case any symptoms of the disease appear.

Dr. HANKS: The case is most interesting. It shows us that we cannot depend upon the *amount* of urine passed in determining whether or not there is albumen present. We all know that when pregnant women pass very little urine we can expect albuminuria. Dr. Harrison's case is an exception to the rule. When other symptoms, such as swelling of the extremities and eyelids, disturbance of vision, headache, and a sleepy, stupid mental condition, the urine should always be examined carefully for both albumen and urea.

Stated Meeting, held Nov. 15th, 1898.

The *President*, GEORGE TUCKER HARRISON, M.D., in the Chair.

Ovarian Gestation.

Dr. E. E. TULL: This specimen, together with the uterus, was removed from a patient some time ago. A diagnosis of ruptured tubal pregnancy had been made, but it was found that the ovary was the seat of the gestation and that rupture had not taken place. An interesting feature of the case is that six years ago the woman had the right tube and ovary removed for disease, and the adnexa on the left side would also have been removed had not the patient suffered so much from shock that it was necessary to bring the operation to a rapid termination. The remaining tube and ovary gave but little trouble during the six years which followed until the ectopic gestation occurred. In spite of the fact that rupture had not taken place, the patient was in such a profound shock that when I first saw her I was afraid to operate and

waited two days for her to recover. No blood was found in the abdomen. The uterus was removed because there was a history of gonorrhœal infection.

DISCUSSION.

Dr. J. E. JANVRIN: The point which has interested me most is the fact that the patient suffered from profound shock, which came on suddenly, and yet no evidences of hæmorrhage were found in the pelvis at the time of operation. I would like to ask Dr. Tull whether there was not a little bleeding in the tube or about the fœtus. A few drops of blood around the fœtus will sometimes cause a tremendous amount of shock, and this is probably due to pressure on the nerve filaments.

I am strongly in favor of performing cœliotomy at once in cases in which it is supposed that hæmorrhage is going on, and in cases in which rupture is *threatened*. It is very difficult to diagnosticate the exact condition and determine whether there is much or little hæmorrhage in these cases. Therefore, it is best to operate early and take no chances.

Dr. A. M. PALMER DUDLEY: I have seen cases in which the ovary and tube have been glued together and with a communication between the latter and the center of the ovary. It is easy to see how ovarian pregnancy might occur in such a case.

In regard to when to operate, I believe in operating at once, and know of several instances in which delay has cost the patient her life. In one case the diagnosis was made in the evening and operation deferred until morning, but in the meantime the patient bled to death. Operation should be done as soon as the diagnosis is made and before rupture has taken place.

Dr. GEORGE H. MALLETT: The specimen is a very rare one. It seems to me very remarkable that the woman should have so much shock although no rupture and no extravasation of blood had taken place. Is it not unusual to wait twenty-four or forty-eight hours before operating in a case in which rupture is supposed to have occurred, as was done in this instance? I know of two cases of ruptured ectopic pregnancy in which the woman would have bled to death had not the operation been performed immediately.

Dr. J. RIDDLE GOFFE: When one has determined that hæmorrhage is in progress in the abdominal cavity, there is no way to ascertain whether or not it is going to stop spontaneously or whether it is going to continue, therefore, the most important thing to do is to operate, and the sooner the better. I once saw a case of ectopic gestation in consultation with Dr. Wells in which we both agreed that hæmorrhage was

still active and made all possible haste to operate. The patient was in such an extreme condition that we had to bandage all the extremities in order to get as much blood into the heart and nerve centers as possible, and employ transfusion of salt solution before operation. Upon opening the abdomen the pelvis was found full of blood and hæmorrhage in active progress. In such cases only prompt action will save the patient. I am in favor of operating upon cases of extra-uterine pregnancy as soon as the diagnosis is made and without waiting for symptoms of rupture.

THE PRESIDENT: All which has been said in regard to the indication for operation in ectopic gestation is very true and I agree with the speakers upon all points save one, and that is, there are some cases in which rupture, followed by bleeding, has taken place and in which the hæmorrhage ceases spontaneously. Such cases do not require operation. When you examine the patient you find a mass at the side of the uterus—in other words, a limitation has been put to the hæmorrhage by the hæmatocele or hæmatoma which has formed. I should not think it necessary to open the abdomen in such a case. I believe Dr. Janvrin was one of the first to come forward in favor of immediate surgical interference in these cases of ectopic gestation.

Dr. JANVRIN: It was first proposed abroad by Kalish in 1857, and in this country by Stephen Rogers in 1867, that the abdomen be opened in cases in which hæmorrhage *was going on*. I believe I was the first to recommend that the abdomen should be opened when tubal pregnancy was recognized *before rupture*. The papers I wrote upon the subject in 1886, referred to that one point and gave what I consider most satisfactory reasons for performing the exploratory cœliotomy. Since that date I have operated successfully in several cases of tubal pregnancy before any rupture of the tube had taken place.

Dr. TULL, in closing: In answer to Dr. Janvrin's inquiry I would say that there was perhaps a thimbleful of blood about the fœtus at the time of operation. There were several reasons why I did not operate immediately. The surroundings were unfavorable and then, too, from the history, I was convinced that the patient had been worse and was improving—in other words, that the hæmorrhage had probably ceased. I certainly am in favor of immediate operation when there is reason to believe that hæmorrhage is still going on.

Injury to the Spleen.

Dr. J. RIDDLE GOFFE: Last Spring I saw a case which is instructive

as illustrating the wonderful endurance of the patient and the perplexing uncertainty of diagnosis in cases of internal injury. The patient was a boy, sixteen years of age, who while coasting lost his hold on the sled and was thrown violently against a sapling, striking his left side and back, and doubling him about the tree. The boy was picked up in an unconscious state and carried to the house where stimulants were administered. Upon recovering consciousness he complained of great pain in the left loin and of vesical tenesmus. There was retention of urine. Upon passing the catheter bloody urine was withdrawn, and a diagnosis of injury, probably rupture, of the left kidney was made. Under the administration of sedatives and rest in bed, together with careful nursing, the symptoms were relieved and the boy apparently recovered. Three weeks after the accident upon making slight exertion the boy was seized with sharp pain in the hypogastrium, followed by symptoms of acute gastritis. He recovered under suitable treatment and resumed his studies. During the following two months he had a succession of relapses and pus appeared in various localities. A number of operations were performed to evacuate this pus, one being an exploratory procedure in which the left kidney was thoroughly examined and found perfectly normal. Four of the most prominent surgeons of New York saw the case in consultation but the symptoms were so obscure that it was impossible to determine the nature and location of the lesion. The boy died finally and autopsy revealed rupture and necrosis of the spleen.

Fibroid Tumor of the Uterus.

Dr. A. PALMER DUDLEY: This specimen was removed to-day from a patient, 42 years of age, who is very fat, weighing over 200 pounds. The growth was in the lower segment of the uterus and it was impossible to get up into the abdominal wound. I finally succeeded in getting the tumor up sufficiently high to permit me to put forceps upon the broad ligaments. I then split up the uterus and enucleated the tumor, the uterus contracting to such an extent that I was able to ligate the uterine arteries. I then divided the uterus and did a supra-pubic hysterectomy leaving only a small tip of the cervix. The appendages being diseased were also removed. Before opening the abdomen the advisability of removing the tumor *per vaginam* was considered but found impracticable. An interesting feature of the case is the manner in which I closed the abdominal wall. It is well known that an incision in a fat abdominal wall will not heal well and that hernia is apt to occur as a

result of faulty union. Therefore, in these cases, after closing the peritonæum with a running catgut suture, I dissect out from the cellular tissue the two halves of the linea alba and bring them into close apposition with a second row of continuous catgut suture, and then introduce several silver wire sutures through the linea alba, taking care to include at least one-third of an inch of the muscle within the suture. Each suture is then shouldered over the cut surface, after the method of Dr. Emmet in his perinæal operation, so that the two halves of the linea alba are held close together without traction. Over each suture a short silver cannula is passed and held in place by means of a perforated shot placed upon the suture at the upper end of the cannula which protrudes above the level of the skin. The skin between the silver sutures is brought together with catgut sutures. These silver wire sutures may be left in situ for several weeks, and are then easily removed by cutting off the shot, slipping off the cannula, dividing the wire at the bottom of the wound where it emerges from the muscle, and gently withdrawing it.

DISCUSSION.

Dr. JANVRIN: This method of closing the abdominal wound reminds me of a case upon which I operated at the Skin and Cancer Hospital some years ago. The woman was large and stout and had had an immense ventral hernia for years, which was not the result of an operation, however. I dissected out the sac, returned the gut and omentum, removing a portion of the latter, and brought the peritonæum together with catgut. I then drew the muscles together with buried silkworm-gut sutures which took in the peritonæum also. Other sutures, of silver wire, which included the skin, fascia, and muscles down to the peritonæum, were then introduced. The silver sutures were removed at the end of ten days. The patient made a good recovery although one of the silkworm-gut sutures had to be removed on account of a little suppuration around it. There had been no recurrence of the hernia.

Dr. HORACE TRACY HANKS: Several years ago Dr. Pryor recommended a method of closing the abdomen in fat women which I have employed successfully. It consists in inserting silkworm-gut or chromacized-catgut sutures through the peritonæum, muscle, and fascia, leaving the fat and integument to be closed after it is apparent that there will be no suppuration around the buried sutures. I always dislike to operate upon these fat women because the wound usually heals

badly. If this very ingenious method devised by Dr. Dudley will meet the indications for which it is proposed, it will be an improvement over buried sutures of either silkworm-gut, silk, or silver wire. Personally, I have been using chronicized catgut, prepared by myself and do not as a rule have trouble with the wound.

Dr. DUDLEY: I understand that Howard Kelly is closing the abdomen with buried silver wire sutures.

Dr. GOFFE: I have used buried sutures and have always had trouble with them which necessitated their removal later.

THE PRESIDENT: I am not in favor of buried sutures of any kind except catgut. I never could understand why anybody should want to leave a foreign body in a wound, and a buried suture is just as much a foreign body as a bullet is. I am convinced that buried silver sutures in the abdominal wound must be painful and may cause trouble which will necessitate their removal.

Dr. MALLETT: I have heard that buried silver wire sutures generally have to be removed later on.

In regard to the manner in which Dr. Dudley removed this tumor, I understand that Dr. Cleveland has recently been operating upon fibroids *in situ*; that is, without bringing them up through the incision. He thinks there is less exposure of the intestines and less shock when the tumor is not pulled up. But it seems to me that it would be very difficult to remove a growth in that way.

Dr. HANKS: I think Dr. Dudley said that the uterus contracted a great deal after the tumor was enucleated. I would like to ask him whether it would not have been possible to have sewed up the wound in the uterus and saved the organ?

Dr. DUDLEY: This could have been done, but I thought it best to do the radical operation because the uterine walls were studded with minute fibroids, and also because the appendages were diseased and had to be removed.

Dr. J. N. WEST: I would like to ask Dr. Dudley whether after removing the uterus, he would have left the tubes and ovaries had they been healthy. I would also like to hear from members who have had experience in leaving the appendages when the uterus is removed. It seems to me that the disagreeable symptoms which usually follow would be avoided if the tubes and ovaries are left.

Dr. DUDLEY: We are gradually becoming convinced that the ovary has some function other than ovulation, and that there is a secretion within it which has a certain influence upon the woman's nervous system. In the case under discussion, I would have left the tubes and

ovaries had they been healthy, nor would I have removed the uterus. I would have closed the wound in the latter and left it. When doing laparotomy for disease of the appendages, I endeavor to leave some portion of the ovary and tube if this is possible, for the purpose of preventing these reflex symptoms. I have done this in quite a number of cases and the patients have not complained of these symptoms as do others from whom everything has been removed.

Dr. GOFFE: This is a question in which I am much interested. Those who have investigated the subject think there is great virtue in the secretion of the various organs of the body although its exact effect is not known. We do know, however, that there are many cases in which patients are benefited after removal of the ovaries by the administration of ovarian extract. If it be true that by supplying the system with this organic substance one may obviate the disagreeable symptoms which follow total ablation of the appendages, it is pretty good proof that these organs do possess an internal secretion which influences the nervous system.

In regard to leaving part of an ovary, some months ago I operated upon a patient and left in a small portion of one ovary. She came back to me later complaining of pain in that region. I found that a small tumor had developed and upon making vaginal section I discovered that this tumor consisted of the portion of the ovary which had undergone cystic degeneration. I have refrained from removing the ovaries in several cases in which I have removed the uterus but have not followed the patients sufficiently long to give their subsequent history.

Dr. TULL: I have tried leaving an ovary of both. In 1891 I operated upon a nurse and left in one ovary, and she has never had any symptoms of change of life but has been entirely well ever since the operation. During the past year when doing hysterectomy, I have left in an ovary if healthy. If both are healthy, I leave only one for then half the risk of further trouble is incurred and I still get the good effect of leaving ovarian tissue.

Dr. DUDLEY: When I was in Brussels I asked Jacobs about this question and found that he is in favor of leaving an ovary. I also noticed that the French surgeons usually leave the ovaries when they remove the uterus. They explain this by saying that the reflex symptoms are much less when the ovaries are left. When they are obliged to remove the ovaries they feed their patients upon ovarian extract.

Dr. JANVRIN: I would like to ask Dr. Dudley whether he would leave the ovaries after vaginal hysterectomy for malignant disease of the uterus.

Dr. DUDLEY: In such a case I would remove everything.

Dr. JANVRIN: That is my practice also, even if the disease be confined to a small portion of the uterus.

Official Transactions.

NATHAN G. BOZEMAN, M.D., *Secretary*.

ABSTRACTS.

This Department is in Charge of the Following Staff of Sub-Editors:

DR. T. W. CLEVELAND, DR. G. H. MALLETT, DR. A. D. CHAFFEE,

PÆDIATRICS.

UNITED STATES.

A Rapid Method of ridding the Throat of Diphtheria Bacilli after the Disappearance of the False Membrane.

A. HAND (*Phila. Med. Jour.*, August 27, 1898) calls attention to the use of silver nitrate, 60 grains to the ounce, to rid the throat of diphtheria bacilli after the membrane has disappeared. Such a solution should be applied daily to the parts that have been affected, and two or occasionally three applications are all that are necessary; it would seem wise to avoid direct application to the larynx lest spasm be excited. Solutions of the strength given were found to be less painful than weaker ones; the discomfort was not great. This procedure has now been tried in many cases, in some of which the bacilli had previously persisted for a long time; in all it was successful, the cultures promptly becoming negative and thus doing away with protracted isolation. This treatment combined with antitoxin renders the course of the disease very brief. As to the efficiency of silver nitrate upon the false membrane the author has seen weaker solutions (20 grains to the ounce) hasten its exfoliation; but trying to abort an attack by its early use he

considers unwise on account of the dense coagulum that is formed upon the surface. Now that we have antitoxin the importance of this as well as of other forms of local treatment during the membranous stage is secondary.

Sarcoma of the Kidney.

G. H. GRANT (*Ann. of Gyn. and Ped.*, September, 1898) in reporting this case uses the old nomenclature of sarcoma reservedly, as probably these tumors are more accurately termed teratomata or blastomata. The case, a female child of six years, although plump was anæmic and waxy; for three weeks her appetite had failed, she had lost strength, and complained of some pain in the abdomen; examination showed a tumor occupying the right hypochondrium and epigastrium; it was slightly tender, rounded, and firm; at the most prominent point the abdomen measured $21\frac{1}{4}$ inches. Operation was considered unadvisable and eleven months later the child died; during the last four months there had been increasingly severe exacerbations of pain, the tumor had grown rapidly and enormously, pressure had given rise to œdema of the lower extremities and genitalia, and frequent micturition and occasional dyspnœa and cyanosis had occurred. On autopsy, a rounded tumor, shaded in color from red to dirty yellowish-gray and bound by many anterior peritonæal adhesions, was found filling the cavity from the ribs to the ilia, displacing the viscera upward and downward, and pushing the floating ribs outward; this mass was found to be the modified right kidney and weighed fifteen pounds; it was rather lobulated and softening had occurred at several points, with the formation of cavities, which had been punctured by the undertaker's aspirator; had they been intact the whole tumor would probably have weighed twenty pounds. Microscopically there was found: (1) a basement structure of a delicate, close-meshed, fibrous reticulum; (2) cells of various shapes and sizes, some pigmented; (3) large, thin-walled, irregular spaces filled with partly coagulated blood (blood-vessels); (4) spaces occupied by tissue like coagulated fibrin (lymphatics?). In some places the growth was composed almost entirely of the reticulum, in others the latter was obscured by the dense formation of cells; the cells were of the large, round, spindle, or polygonal varieties, with much protoplasm and large vesicular nuclei, and of the small, round kind, with small nuclei almost filling the cell body; many of the spindle cells and some of the large, round cells were pigmented, these pigmented cells being confined to the areas of loosely reticulated tissue. All of the tissue was of a very

primitive type, embryonic in character. Though the parasitic theory of the origin of these tumors has many plausible arguments, study of the elements seems to make their embryonic origin certain. The results of surgical interference are better than a few years ago, but a very great proportion of the cases recur, even though they recover from the immediate effects of the operation.

The Care of Cows for the Production of a Suitable Food for Infants.

J. C. CULBERTSON (*Cleveland Med. Gaz.*, September, 1898), assuming that the cows are healthy, discusses the conditions necessary to keep them so. Stable protection from cold and inclement weather is essential and the floors should be kept clean by daily scrubblings. The walls and ceilings should be frequently cleaned and coated with whitewash. Cows should be curried and brushed every day. At milking, the cow's tail should be tied to her legs, and the writer is authority for the statement that this may be done without causing the cow special annoyance, though whether he has any personal experience in the matter does not appear. It is certain that the mother's mental state affects her milk and so the health of the infant; the cow is subject to similar emotional disturbances and no doubt her milk is affected in the same way; so that cows selected for this purpose should be of an equable temperament, and should not be petted nor frightened nor angered. The writer considers the keeping of the cow in good temper a matter of much importance. It is necessary that the cow should have suitable food. Distillery slops increase the flow of the milk and the amount of butter-fat, but produce fever, loss of hair and teeth, and must render the milk unhealthy. Cows are evidently intended to eat coarse food and so do well when fed on clean hay and corn chopped into nubbin size. Cooked food is unwholesome and makes the cows ill; one reason is that meal is not properly cooked. Clean pasturage and an abundance of clean water are necessities. Of course the milker's hands and pail must be absolutely clean.

Cold in the Treatment of Some Children's Diseases.

A. L. KELSEY (*South Cal. Pract.*, September, 1898) reminds us that in order to get the refrigerant effect of cold the blood must be brought to the surface of the body from the internal organs; this is accomplished by the secondary dilatation of the capillaries, which dilatation will not occur if the cold be too intense or too long applied; on the other hand, congestion of the internal organs will be caused or increased. This

vaso-dilatation must be brought about by removal of the cold or by massage, or, as where a very rapid lowering of temperature is desired, by a cold bath followed by a warm one. In general, the writer prefers the ice-bag or cold compresses to the cold bath, as these measures are as effective and at once less laborious and less disturbing to the patient; if the ice-bag be used it should be shifted from place to place. In all cases the feet and legs should be kept warm. Where there is no local inflammation to combat spinal ice-bags are useful. In the eruptive fevers cold water reduces temperature and thus prevents complications; when the eruption is delayed, a cool bath followed by vigorous rubbing will often bring it out; for delirium we may use ice to the head and compresses to the trunk; all these things, the writer thinks, together with cool anemata and plenty of cool water to drink, are efficient in preventing the nephritis of these diseases. Cold is equally good in other fevers. The author has seen good results also in chest diseases from this treatment; he believes that acute bronchitis may often be aborted by cold compresses, and that the other chest diseases may be controlled and rendered less fatal by the systematic use of cold; in the latter he usually prefers the ice-bag. In all abdominal conditions cold and cold water will be of the greatest value; a substitute for lavage of the stomach is to make the child drink water till it vomits from the pressure; the excoriations about the rectum from acid dejections may be relieved by cleansing the external parts with a cool solution of soda and keeping the rectum washed out with the same. In convulsions the writer believes that more can be done with the cold bath than with the hot one, ice compresses should be applied to the spine and chest and a cool enema given, but the feet should be kept in hot water; if the fever does not abate the child can be transferred to a warm bath.

The Intra-uterine Origin of Blennorrhæal Conjunctivitis of the New-born.

R. SATTLER (*Cleveland Jour. of Med.*, November, 1898) reports the case of a woman of good health and in favorable surroundings whose three successive children had acute blennorrhœa. The first, seen by the writer several days after birth, was said by the attending physician to have been born with the inflammation. On the approach of the second confinement, though the mother was in good health and had no excessive vaginal discharge, vaginal prophylaxis for several weeks with the Credé method at birth was recommended, in spite of which the child was born with a sharp purulent inflammation of the eyes, the profuse discharge

suggesting a duration of several days at least. The history of the third confinement was the same. Another woman, also in good health and the mother of several healthy children, gave birth after an easy labor without excessive vaginal discharge, to a child with a most profuse purulent inflammation of the eyes. Before her next confinement the same preventive measures as in the other case were carried out but the child was born with pronounced blenorrhœal conjunctivitis.

Résumé of Rickets.

C. A. TUTTLE (*Yale Med. Jour.*, December, 1898) calls attention to conditions of the mother predisposed to rickets, such as ill health, malnutrition or disease during pregnancy, numerous rapid or multiple pregnancies, age of mother—40 or more—lactation during pregnancy, heredity, and syphilis. Prophylactic treatment includes attention to such ante-partum factors, and also appropriate feeding and hygienic care of the child. Only necessity should prevent the mother from nursing her child, but if this be impossible good cow's milk, properly prepared, will usually insure a healthy infant. The child should have a daily bath in tepid salt water, followed by vigorous rubbing, warm woolen underclothing, plenty of high and dry air out of doors and good sanitation in the house. Such measures will usually forestall any predisposition to rickets. As to medicinal treatment, cod-liver oil is of so much value as to be regarded by many as almost a specific; maltine, with or without lacto-phosphate of lime, is excellent. The author has obtained his best results from oleum phosphoratum as recommended by Jacobi; he gives this before eating with the syrup of iodide of iron after. It may be necessary to discontinue the treatment for a short time, using Fowler's solution in the interval.

Subacute Bronchitis in Children.

E. M. DUPAQUIER (*New Orleans Med. and Surg. Jour.*, December, 1898) cites a number of cases of subacute bronchitis in children that seemed to depend only on chronic indigestion and that were cured only by treatment directed to this condition. Of particular importance are those cases in which the digestive troubles are in a way latent—children that do not complain of any digestive trouble but suffer from various nervous disorders and minor discomforts due to impaired digestion; examination shows a coated tongue, an irritated pharynx, thin abdominal walls, and gastro-intestinal atony. The bronchitis that attends

these symptoms does not get well promptly like an acute attack, nor is it like chronic bronchitis in which fever is absent and which improves under cod-liver oil, iodides and arsenic. It depends upon a gastro-intestinal taint—the children are dyspeptics from birth. The management of these cases is limited to proper feeding, antiseptics of the mouth (boric acid), antiseptics of the stomach and intestines (calomel and boric acid), and antiseptics of the bronchi by vomiting (ipecac, etc). Careful bathing and fresh air are absolutely necessary. Older children do well in addition on strychnia and cinchona.

Urethritis in Male Children.

I. A. ABT (*Ann. of Gyn. and Ped.*, December, 1898) quotes as the causes of non-specific urethritis in boys: (a) urine containing an excessive amount of urates, (b) traumatism, (c) extension of a balanitis, (d) masturbation. Koplik believes it due to inflammation of the meatus and fossa navicularis, often the result of some innocent manipulation by mother or nurse. The writer reports two cases. The first was sixteen months old; when first seen he had a temperature of 105° which afterward dropped to 101°. There was considerable enteritis; on the second day the meatus was found crusted over, and on removing the crust a thin, milky secretion trickled out; the meatus was reddened and the prepuce was swollen. The urine was acid and showed a large quantity of urates; microscopical examination revealed pus-cells, epithelium and staphylococci. Treatment was directed to the enteritis and cooling lotions were applied to the penis, when the discharge ceased in a few days. The second case, fifteen months old, began with an attack of bronchitis with high temperature; on the second or third day a yellowish, purulent discharge was noted, with swollen meatus, painful micturition, and abundance of urates in the urine; there were no gonococci in the pus.

Gonorrhœal infection presents much the same symptoms as in the adult. Such a case, two years old, was seen by the writer; the pus showed gonococci, and two weeks later the rectum became infected, pus from the latter also containing gonococci; there were rectal irritation and tenesmus and the stools, though otherwise normal, were small, frequent and twice streaked with blood. The urethral trouble was treated with hyoscyamus and injections of ichthyol, later of permanganate of potash. The rectal infection was treated with injections of half-strength peroxide of hydrogen, three times daily, followed by a suppository of bisulphate of quinine and ichthyol; in about seven weeks

both discharges ceased. The source of infection could not be traced. In no case hitherto reported has rectal gonorrhœa occurred. Among other complications, stricture and cystitis may arise, also, though rarely, epididymitis and orchitis. Gonorrhœal arthritis has been reported only after vulvo-vaginitis or purulent ophthalmia.

Tendon Grafting or "Function Transference" in the Treatment of Infantile Paralysis.

F. EVE (*Pediatrics*, December 15, 1898) points out that while the operation of tendon grafting must vary with the muscles affected much may be learned by a study of individual cases. Some one group of muscles must possess a fair amount of power, flail-joints being, of course, suited only for arthrodesis. In selecting a muscle for graftin, that should be chosen whose action is most nearly allied to that of the paralyzed muscle or group; sometimes, however, we choose an antagonist of the paralyzed muscle with a view to weakening the uncontrolled contraction that is producing the deformity. Before operation any faulty position of the foot must be corrected by manipulation, plaster or splints; sometimes talipes cavus will require preliminary operation, and the equinus so often existing must be corrected either before or at the time of the grafting. A number of cases are cited. Case I. was a boy whose extensors and peronei were completely paralyzed from division of the popliteal nerve. There was flexion of the knee and foot-drop; the ends of the nerve were united and plaster applied but the muscles remained completely paralyzed. The tibialis posticus was divided and attached just below the ankle to the tendons of the extensor longus digitorum; a band was separated from the outer side of the tendo Achillis, divided near its insertion, carried around the fibula just above then external malleolus and attached to the tendon of the peroneus longus. One month later the boy's foot was at right angles to the leg, he could walk firmly upon it, and had regained some power of dorsi-flexion. Case II. presented the left foot in a position of extreme epuino-varus; the peronei did not react at all to faradism and the extensor longus digitorum but slightly. The tendon of the tibialis anticus was divided and attached to the peroneus brevis; the tibialis posticus tendon was divided, carried above the internal malleolus and attached to the extensor longus. Later the tendo Achillis was lengthened. The child now walks fairly well, with the foot flat, has good dorsi-flexion and no adduction. In Case III. the extensor longus digitorum and tibialis anticus were paralyzed; the tibialis posticus tendon

was attached to the tibialis anticus, the peroneus brevis to the extensor longus digitorum and, subsequently, the tendo Achillis lengthened. The foot is now at right angles, and the child walks firmly upon it. Case IV. had an old infantile paralysis with foot-drop and eversion but the peronei acted well; the peroneus longus tendon was attached to the extensor communis digitorum and the peroneus brevis to the tibialis anticus. The foot came into good position without eversion and with some power of dorsi-flexion.

Where single muscles are paralyzed less complicated procedures are necessary. As regards technique, long dorsal incisions were found to give rise to œdema of the distal part of the foot. The tendon to be transplanted (for instance the tibialis posticus) was exposed by an incision of an inch and divided; a similar incision was made over the same tendon above the internal malleolus and the divided tendon pulled through it; if it was to be attached to the tibialis anticus, the latter tendon was exposed below the front of the ankle, the skin and fascia between the last two incisions tunnelled under by scissors, the free end of the tibialis posticus tendon pulled through this tunnel and attached to the tendon of the tibialis anticus. Junction is effected by splitting the paralyzed tendon longitudinally and drawing through the hole thus made the tendon of the functioning muscle, uniting them firmly by several sutures passed through both tendons. Where the action of the graft is nearly allied to that of the paralyzed muscle the patient is soon able to perform the new movement. The graft acts mechanically as a supporting band where most required. If one of the contracted antagonists be used for the graft the antagonism is weakened and the deformity is treated as if by tenotomy. The involuntary contraction, following placing the foot on the ground, of the functioning muscles acting in the right direction gives the foot firmness even though the patient cannot perform the movements belonging to the paralyzed muscles.

GREAT BRITAIN.

Strangulated Hernia in an Infant.

J. E. BRISCOE (*Lancet*, September 10, 1898) reports the case of a child 21 days old that became ill from no apparent cause and after a small initial motion, passed no stool or flatus for some hours; examination showed the scrotum slightly œdematous and red on the right side, distended by a tense, pear-shaped swelling, which seemed to end at the

external ring, and was without alteration when the child cried; the physical signs were thus those of inflamed hydrocele, but the symptoms pointed to hernia. Reduction was unsuccessfully attempted and an incision was made into the sac, exposing a coil of bowel, three or four inches long, dark in color, but still glossy. A second attempt at reduction failing, the canal was dissected up; the bowel was found tightly invested by the thickened peritonæal tube, the constriction particularly marked at the internal ring, which was divided; the hernia was then reduced on inverting the child, the ring closed, and the skin incision sutured. Healing was rapid, the bowels acting regularly. The tube of peritonæum was so tight that it is hard to see how the bowel could have entered it.

The Treatment of Ringworm of the Scalp.

G. S. PERKINS (*Lancet*, October 22, 1898) treats ringworm in the following manner: The affected part is shaved, and finely powdered chloride of sodium, with enough vaseline added to make an ointment, is thoroughly rubbed into the spot night and morning till it is sore; this takes from two to four days. A simple application is then used to heal the soreness and when this has occurred, the hairs will be found growing healthily and the tinea destroyed. The writer has used this method for fifteen years with uniform success, many of the cases being chronic ones

IRELAND.

Note on "Relapse" in Scarlatina.

R. H. KENNAN (*Dublin Jour. of Med. Sci.*, December, 1898) remarks the small attention paid in text-books to the subject of second attacks of scarlet fever. Nevertheless under modern conditions, especially the isolation of these cases in large hospitals, second attacks of the disease, occurring soon enough after the first attack to be called relapses, seem to be on the increase. Formerly where a patient was by himself, as he improved he was subject to an ever diminishing intensity of infection; but in large wards where new cases are constantly introduced this diminution is not obtained. It has been suggested that a ward should be set aside for acute cases, another for convalescents and still another for those about to leave the hospital. Dr. Caiger has investigated the subject of relapse and finds that it occurs in about

.5 per cent. of all cases admitted to hospital. The estimate takes into account only cases in which both attacks were typical. It has been also found that the severity of the second attack is inversely proportional to that of the first.

CANADA.

The Treatment of Convalescent Club-Foot.

V. P. GIBNEY (*Canad. Jour. of Med. and Surg.*, September, 1898) restricts his remarks to congenital equino-varus. That the terms "relapsing club-foot," "inveterate club-foot" are so common shows the necessity of greater care, largely in the management of convalescence. Of course the surgeon may have failed to effect perfect reposition from lack of understanding of all the conditions of the diseased and normal foot. It is necessary to over-correct the deformity; opposing ligaments must be either severed or stretched thoroughly. Also, this over-correction must be maintained, say, from eight to twelve weeks, although it is possible to maintain it too long. Apparatus should be as simple and easy of application as may be, and should have the personal supervision of the surgeon himself. The shoe should be raised along the outer border; the mere turning in of the toe need not cause much anxiety, but if it persists when the child is old enough to be taught, the sole of the toe of the shoe may be raised along its outer border three-eighths of an inch. Daily manipulation in detail should be taught to the parents by the surgeon, and the muscles must be developed as much as possible. The surgeon's observation of the case should extend over the entire period of convalescence. When simpler measures fail resort must be had to the open bone operations, removal of the head of the astragalus or cuneiform osteotomy of the proximal end of the os calcis.

AUSTRALASIA.

Inguinal Hernia in Childhood.

R. H. RUSSEL (*Intercol. Med. Jour. of Australasia*, August 20, 1898) takes a somewhat novel view of the inguinal canal: he regards it as essentially composed of two different parts, a rigid floor formed by Poupart's ligament and an actively contracting muscular half formed by the arched lower fibres of the internal oblique and transversalis; contraction of the muscles straightens these fibers and closes the open-

ing, so that their action is sphincteric and the canal a half sphincter. The force which tends to the production of hernia is the contraction of the abdominal muscles, and this force is thus exerted simultaneously in a corresponding degree in protecting the entrance to the canal. In the normal inguinal canal, therefore, hernia is an impossibility; what, then, is the factor that militates against the efficiency of this sphincteric action? It is the funicular process of the peritonæum that accompanies the testicle in its descent, which should, of course, become obliterated. The degree of failure of this obliteration matters but little, a small remainder of this process being as efficient in the production of hernia as a large one. One would think that the persistence of this process would always result in hernia, but it may be said that it is in the minority of even these cases that hernia occurs. The writer therefore argues that if in such cases hernia comparatively rarely takes place it can never come down in normal canals; and that every hernia in children is congenital. It is impossible in operations to materially elongate the peritonæal tube without much loosening of its attachments, and it is inconceivable that sudden or reasonably long continued pressure of the bowel could produce a sac an inch or two long. Moreover, children in whom the process is not patent, present, after extraordinary and long-continued efforts to force the hernia into the scrotum, only a bubonocoele, in marked contrast to the ordinary congenital hernia that descends so easily into the scrotum; such a case is cited in a boy that had suffered from stone for four years, who, in spite of most violent straining, had only a double bubonocoele. Another argument is the result of operative treatment; if patency of the funicular process be the cause of the hernia then removal of this sac would cure the rupture; and this has been the writer's experience. He now puts no sutures into the abdominal wall to close the canal; his sole aim is to remove the sac flush with the internal opening in order to permit unrestricted action of the inguinal sphincter; the efficiency of this sphincter is shown should the patient chance to vomit at the end of the operation. In operating, the finger should be passed up the canal (by enlarging it if necessary) so as to loosen the upper part of the sac and pull it down till the layer of subperitonæal fat appears; the ligature should then be applied in such a way as to include some of this layer, so that when the sac retracts it will be well out of the way of the transversalis and so that the inner orifice of the canal will be drawn flat without any peritonæal pocket. The surface wound, which is always in the groin, never in the scrotum, is closed and the operation is completed. Regarding the indications for operation in children: what occurs in the cases that are supposed to be cured by trusses? Ob-

literation of the funicular process is not secured, but by keeping the bowel up for a time the inguinal sphincter merely recovers its efficiency. Thus, the cure is only apparent and the subject is in merely the position of the cases with patent processes in which the hernia does not descend; there is always danger of a redescent, and it is in just these cases of redescent into a narrowed canal that there is the greatest liability to strangulation. The number of cases thus dying of strangulation is certainly not less than the number that die of operation, and it would seem wise to prefer an operative cure to one that is not real and leaves the patient in almost greater danger than none at all.

OBSTETRICS.

UNITED STATES.

Rupture of Vagina during Parturition.

J. W. DANIEL of St. John, N. B. (*Annals Gyn. & Pediatrics*, September, 1898), says that rupture of the vagina is usually associated with rupture of the uterus, the vagina being secondarily involved by extension, but in one-third of the cases the injury is confined to the vagina alone. When confined to the vagina the tears may be either transeverse, longitudinal or irregular in direction and shape. Vaginal tears may be either traumatic or spontaneous in origin. When traumatic, they may be caused by the blade of the forceps, from either faulty or too forcible manipulation; by the use of the perforator or cephalatrite; by the forcible introduction of the hand for version; or by a douche nozzle. Spontaneous rupture may be due to: disease of the vaginal walls, disproportion between the size of the foetal head and the pelvis, or osseous irregularities upon the inner surface of the pelvis. Spontaneous tears of the vagina are more frequently transeverse in character, those in the middle portion are more often longitudinal. The more serious tears are in the upper part of the vagina, as the peritonæum may be also involved. Hart of Edinboro has shown that the vagina in its upper half inch, on the posterior wall, is structurally weak. Tears of the lower portion of the vagina are frequently associated with laceration of the perinæum, though not always. While recoveries from rupture of the

uterus are quoted as four and one-half per cent., ruptures of the vagina are only twelve per cent., showing a high mortality for the latter. The writer reports the case of a primipara aged 25 years, whose labor appeared to be natural, except that the pains in the second stage were very distressing but not of long duration. No instruments were used, or ergot given. There was no laceration of the perinæum and nothing to indicate that any accident had occurred. The placenta came promptly and without difficulty. In a short time the patient became pale, with sighing respiration, weak pulse, and appeared to be exsanguinated. The uterus was found to be firmly contracted, but a profuse bleeding was found to be present. On vaginal examination an irregular, fleshy mass was felt on the posterior vaginal wall, unconnected with the uterus, which extended down below the middle of the vagina and from which the blood was found to be coming. It was with difficulty that the diagnosis was made, but the rent was felt to be very deep, extending to the rectal wall, but not into it; this mass was found to be on one side of the torn vaginal wall, bulged up by contraction.

Hot vaginal douches controlled the hæmorrhage. The tear was too high to repair. The patient recovered without sepsis. None of the foregoing causes could be found to account for this case, and the conclusion reached was that the vagina in this case was not as distensible or capacious as it should be normally.

The Topical use of Alcohol in Puerperal Infection

GEO. H. NOBLE (*Georgia Jour. of Med. and Surg.*, October, 1898) wishes simply to further the introduction of a measure for the relief of septic infection that is of great value. It is equally applicable to cases of saprophytic and pus-producing infection, so that no distinction need be made regarding the form of the infecting bacteria. But it must be understood that the infection is confined to the cavity of the uterus, the mucosa, the thrombi in the ends of the vessels, and the placental site; for if pyosalpinx, uterine abscess or peritonitis exists, the disease has gone beyond the reach of local applications. Correct diagnosis is therefore necessary in selecting suitable cases. The method of procedure is as follows: After thoroughly cleansing the uterine cavity, introduce a sterile rubber catheter, which has had previously attached to its tip a strip of sterile gauze about an inch wide and two yards long, then carefully insert the gauze around it, taking care not to pack tightly, as its object is to act as a retainer for the alcohol, and not as a drain or tampon. A few drachms of 95 per cent. alcohol is injected through the catheter

every fifteen to thirty minutes until marked improvement has taken place, and the intervals are increased as the case improves. The projecting end of the catheter must be kept thoroughly buried in antiseptic gauze. These dressings are left in place for from five to eight days, unless the sepsis is marked, then it may remain longer, except when the drainage is interrupted by coagulation, then it may be replaced by fresh gauze. One case, apparently hopeless, was brought into the hospital twenty-two days after confinement, suffering from mixed infection, streptococci and gonococci. She was semiconscious and extremely weak. The uterus was cleansed under ether, two spots about the width of a finger and an inch long, of soft tissue, were scraped away, the curette going nearly through the uterine wall. The alcohol treatment was used for ten days, the temperature dropping gradually to normal. A surprising feature was the absence of chills after curetting in every case coming under observation. Another advantage of this treatment is the ease with which this treatment is conducted. Any nurse can carry out the treatment after the dressings are once in place. From its acting in cases of putrescent material as well as in septicemia, the alcohol must possess the power of preventing the development of spores. It acts best in cases where the water in the tissues is greatest, suggesting that its dehydrating properties take from the spores the moisture necessary for their development.

It may be used in connection with other treatment, such as anti-streptococcic serum, surgical measures for the relief of pus in the appendages or peritonæal cavity, etc., where there is coexisting infection of the uterine cavity, thus cutting off constant renewals of infection, and affording some stimulation by absorption of alcohol. As alcohol possesses antiseptic properties and is less dangerous than most active agents of this class, it is but reasonable that its employment in a way that keeps the parts in a constant bath must give better results than an occasional douching of stronger and more irritating solutions.

A Case of Combined Extra- and Intra-Uterine Pregnancy.

C. JEFF MILLER (*New Orleans Med. and Surg. Jour.*, October, 1898) was called to attend a colored woman for a miscarriage. A three-and-one-half-months' foetus had been expelled before the writer's arrival, and was lying in the bed. The writer passed his finger into the uterus and by pressure over the abdomen with the other hand delivered the secundines and some blood-clots, the woman meanwhile complaining of great pain. A hot douche was ordered. About four hours later a mes-

sage came that the patient was suffering intensely. She had been seized with a violent pain while sitting up in bed, then vomited and suddenly went into a profound state of collapse, pulse 160, and shallow breathing. The abdomen was rigid and tender, and dulness was elicited by percussion. She was evidently beyond surgical assistance. A thought of rupture of the uterus was entertained, but an examination disclosed no rent. Per vaginam a fluctuant mass was felt at the left of the uterus. Two hours later she died. Autopsy revealed a ruptured Fallopian tube on the left side, and among the blood-clots in the pelvis was a fœtus about three and one-half inches long. This complication is comparatively rare, and is always grave. Dr. Royster found that thirty-seven cases of this condition had been noted previous to 1890. A review of the "Index Medicus" since that date shows eight cases reported. The complication is, therefore, sufficiently common to warrant a careful investigation in every instance where sudden internal hæmorrhage occurs, or a tumor is observed complicating pregnancy, especially if it be of rapid development.

Premature Delivery to preserve Sight.

A. E. ADAMS (*Annals of Ophthalmology*, October, 1898) reports two cases of interest. Both were primiparæ, one seven, and the other six and a half months' pregnant. The first case had no symptoms except a rapid failure of sight for two weeks. Her physician had pronounced her urine to be free from albumen. Examination of the eyes showed a neuro-retinitis in each eye, and the nerve heads swollen. Veins full and tortuous; a few glistening white spots near the maculæ, and large plaques in other portions of the fundii. R. V. was 4/200 and L. V. 3/200. A week later the neuro-retinitis was more marked, and there were several small fan-shaped hæmorrhages. The sight had failed perceptibly. The R. V. was 3/200 and L. V. 1/200. The urine had been examined by another physician and was found to contain both albumen and casts. After consideration of the rapid onset of the trouble, its serious nature, and the probable viability of the child, premature delivery was advised, and performed three days later. The child lived. One month later the R. V. was 10/200 and L. V. 20/50. There were large plaques of exudation in the right eye near the macula, and a few patches in the left eye; also some small glistening white spots around the macula. One year later the vision was 20/30 in each eye. There was concentric contraction of the fields, and the right disc was paler than the left—otherwise the fundus was normal. Three years

after delivery the vision was about the same, and there was still albumen in the urine. Her mother died of Bright's disease.

The second case had a good family history, but had been a sufferer from rheumatism. Her feet had swollen at times. No headache. Sudden failure of sight was the marked symptom. Examination showed a neuro-retinitis, with large yellow-white patches of exudation in each retina. Hæmorrhages of dark color and irregular shape were numerous in the retina. R. V. was 20/200 and L. V. 6/200. The urine was loaded with albumen. Six days later the R. V. was perception of large objects, and the L. V. perception of light only. Premature delivery of a dead foetus was accomplished, but uræmic convulsions commenced soon after and continued for two hours, and for twenty-four hours her condition was critical. Recovery was slow. The return of sight was very slow; one year after delivery the R. V. was 20/20 and L. V. 12/200. The right disc was very pale, and the left disc almost white. Albumen was still found in the urine. Patients with defective sight due to kidney trouble may carry the child to full term, and eventually recover perfect vision; in other cases the sight is permanently impaired or lost.

If abortion is ever justifiable, it is in these cases of chronic Bright's disease where there is a neuro-retinitis with hæmorrhages, and almost total loss of sight is probable, especially as the uræmic condition of the blood is dangerous to the life of the foetus, and a constant menace to the life of the mother.

Cæsarean Section.

R. LUDLAM (*The Clinique*, October 15, 1898) reports a Cæsarean operation performed on a dwarf four feet and one inch in height. Her head and trunk were of normal size, but the arms and legs were about half the usual length. She had been pregnant six times previous to this occasion; three miscarriages had occurred spontaneously, and three full-term children had been mutilated and removed. Examination showed the antero-posterior diameter of the superior strait to be one and three-quarters inches. When signs of approaching labor were noticed, careful aseptic preparations were completed, and an abdominal incision twelve inches long made, through which the gravid uterus was turned out. A central incision was made in the uterus, extending through the membranes, when, by a sort of reversed uterine peristalsis, the child, a healthy ten-pound boy was projected upward and out through the opening.

The placenta was carefully separated, hæmorrhage being controlled by hot sponges. The uterine wound was closed with silk sutures, and the abdominal incision closed without drainage. The operation was finished in thirty minutes and the patient put to bed in excellent condition. She died, however, on the fifth day. Autopsy showed that while both wounds had healed properly, and there were no signs of hæmorrhage, or other accidental conditions, there was an extensive metro-peritonitis.

Report of an Obstetric Case; Pendulous Abdomen.

J. W. HYDE (*Brooklyn Med. Jour.*, November, 1898) says that while cases of so-called pendulous abdomen are not infrequent, the deformity in the following case was so exaggerated that it seems worthy of mention. The patient was not seen by the writer until he was called to attend her in confinement. She was anæmic, emaciated, and very feeble. Labor had been in progress for two hours and a half. The contents of the abdomen were apparently in a long abdominal pouch resting on the thighs, the most dependent portion reaching to the lower third of the thigh; its walls were so attenuated that even the hands and feet of the foetus could be distinctly felt through them. Examination per vaginam showed a practically empty pelvis, but reaching the fingers over the symphysis, the os, two-thirds dilated, could be felt. Whiskey and strychnia were given, then chloroform was administered. The pouch and its contents were turned up backward and held in position on the abdomen, and the child's head readily forced into the superior strait. The membranes were ruptured, forceps applied, and the child quickly delivered. The uterus contracted firmly, and with careful bandaging and tonic treatment the patient did well. The abdominal walls never regained their tone, and the patient still lays the thin walls in large folds under a bandage. The uterus and contents being outside the pelvis, Nature could never have accomplished the delivery unaided.

Hydrogen Peroxide in the Treatment of Puerperal Sepsis.

JOHN N. UPSHUR (*Richmond Jour. of Practice*, November, 1898) says that in these days of advanced asepsis, puerperal sepsis should not ordinarily occur, and if it does occur, it should be treated aseptically rather than antiseptically. Autogenetic cases, where the foetus has died and become putrified, are sometimes encountered, but usually the fault

lies with the accoucher or nurse. The writer's treatment in these cases is to first irrigate the interior of the uterus with a normal salt solution, remove all retained materials with a sharp curette, then again irrigate freely with salt solution. After drying with aseptic cotton or gauze, hydrogen peroxide is applied to the uterine cavity by an intra-uterine syringe, or an applicator wound with aseptic cotton or gauze saturated with the hydrogen peroxide. The foam should be removed and fresh applications made until the cessation of foaming shows that the uterine cavity has been thoroughly cleansed. This procedure should be practised daily until the temperature falls to normal and remains at that point. This, in the writer's experience, always occurs within a week.

Three cases are cited to illustrate the beneficial effects of this treatment.

The rationale of this method is that hydrogen peroxide causes a rapid oxidation of effete organic matter, thus completing in a short time what it would take the unassisted process of Nature a dangerously long period to accomplish. It not only initiates, but improves and accelerates the efforts of Nature to remove offending foreign materials. It possesses advantages over mercuric chloride, carbolic acid, and similar agents in that it is non-corrosive and non-destructive of healthy tissue. Moreover the results obtained by its use are superior to those obtained by the use of any other agent.

The Treatment of Incomplete Abortion in Unfavorable Surroundings.

WALTER J. CORCORAN (*Brooklyn Medical Journal*, December, 1898) speaks of the numerous cases of incomplete abortion that are complicated by hæmorrhage or sepsis, occurring in homes where the surroundings are most unsanitary, and where the patient or her friends refuse hospital aid. His method of procedure in a case cited was simple yet effective. The patient was placed on the bare kitchen table, the instruments in a pan on the floor; boiling water was poured over them, and the doctor's hands then thoroughly scrubbed under the tap with running water. The cervix was dilated, placental remains removed by the curette, the uterus swabbed out with sterilized gauze, then packed with gauze, while an applicator, designed by Dr. John Byrne, was filled with a compound iodine paste, made by the following formula:

R: Iodini

Potass. iodid.	}	aa.
Acid carbolic		
Glycerin		

Tannin, q. s. to make a smooth paste.

The gauze was then removed, the applicator introduced to the fundus, and the paste slowly expressed, so that it would come in contact with, and smear over every part of the endometrium, paying particular attention to the cornu. The vagina was loosely filled with iodoform gauze, which was removed the next day.

It is impossible to follow, in these cases, the principles of strict asepsis, as laid down in the text-books. The germs that may possibly be introduced from the external parts, are destroyed, or prevented from multiplying, and the absorbents seared by the iodine paste.

The after-treatment is simply "hands off." It might be desirable to wash the discharges from the vagina, but every introduction of a syringe nozzle under such circumstances and surroundings is more apt to infect than to cleanse.

There is great saving in time and labor, and this, in connection with the fact that the results are good, is of importance when the compensation is little or nothing.

This method applies to cases where there is no general septic infection. After the third month greater care needs to be exercised in the use of the curette, lest new channels for absorption be opened up by undue violence. In other cases, where there is no removable source of infection, but an invasion of the more virulent organisms, which, more rapid in growth and absorption, are swept beyond our reach; irrigation, being followed by chills and higher fever, the surgeon's aid is powerless, and we must trust to a "merciful Providence and a liberal supply of whiskey."

Maternal Impressions.

LEWIS C. BOSHER (*Medical Register*, December 15, 1898) cites a case which recently came under his care, which would seem to strengthen the theory of the influence of maternal impressions upon the foetus. Mrs. M. was delivered of a seven-months' still-born foetus, the body and limbs of which were well developed, but whose head was strangely deformed. The frontal, parietal, and occipital bones were absent, and at the back of the head was a vascular mass resembling a placenta in appearance. The eyes were prominent, and the neck short and thick. When the mother was refused permission to see the child she at once asked if the head was not deformed, and stated that during her pregnancy she had witnessed two accidents which made a distressing and permanent impression on her. The first was the death of a friend, who was thrown from a carriage, striking his head against a tree. The

skull was crushed so that the brains protruded. Two months later she saw the body of a man killed on the railroad. The head was crushed and covered with blood.

Another physician told the writer of a case in his own family. His wife was accosted by a beggar with a peculiarly deformed hand. She constantly alluded to the subject, and expressed fears that her expected child might be similarly afflicted. When the child was born its hand presented a deformity almost exactly similar to that of the beggar.

GREAT BRITAIN.

"Missed Labor."

MARY SCHARLIEB (*British Med. Jour.*, September 17, 1898) says that many excellent authorities, among them Galabin, say that no authenticated case of "missed labor" is on record; that such cases are really instances of ectopic gestation where a communication has been formed between the sac and the uterus. Missed labor is not protracted gestation, although that may be the precursor of it. The dividing line must be drawn sharply at the death of the child. Dr. Robert Barnes defines it as the retention of a mature foetus in the uterus beyond the natural term of gestation, signs of labor at the proper time having been manifested. Spiegelberg assumes the fact that "missed labor" is possible, but quotes no case. Fabbri of Bologna gives an account of twenty specimens among cows and sheep, gathering his statistics chiefly from the public slaughter-houses. Other writers are quoted, but there seems to be no case sustained or confirmed by either an operation or an autopsy. The case seen by the writer became pregnant in October, and was fairly well until the following May, when she was taken with an attack of cramping pains so severe that for a week she could neither sleep nor lie down, and was confined to her room for six weeks, or until the term of her expected confinement early in July. A little before that time another attack of pain came on and she passed a shapeless mass of pink jelly about two inches in diameter, followed by clots of blood. No labor occurred. Early in September a hæmorrhage from the vagina was followed by a thick yellow discharge. At this time she had some severe pains like labor. Her doctor advised her to go into a hospital. On admission she looked worn and ill. Temperature 102° F., pulse 120. Sordes on lips. Her legs were swollen, and the abdomen tense and œdematous, was enlarged beyond the usual size of pregnancy at full term. No foetal heart was heard and no movements were felt. On

September 28th the patient was anæsthetized and the outlines of the child could be felt through the swollen tissues. The lower segment of the uterus partly blocked the pelvic cavity, but no sign of the cervix could be found. Finally, above and behind the pubes a narrow slit was found through which a bougie could be passed its full length, appearing to be immediately beneath the skin. The diagnosis seemed to lie between missed labor with atresia of the os, and extra-uterine pregnancy.

The abdomen was opened by a long incision in the median line; the gestation was found to be uterine, and the uterus adherent to both the intestines and the parietes. On opening the uterus some very fetid fluid poured out, while within the uterus was a large, fully developed child, weighing twelve pounds. Its epidermis was peeling and the bones of the head were loose. The placenta was adherent to the uterine wall and full of puriform fluid. The uterus was so friable and disorganized that it fell into pieces in the careful efforts to loosen its adhesions. The broad ligaments were thickened, permeated by large arteries to the sides of the uterus. There was no hæmorrhage on dividing them, as they were all empty or thrombosed. The uterus was amputated just above the reflection of the peritonæum onto the bladder. The lower segment in the pelvis was cup-shaped, and no signs of an os could be found. An unsuccessful attempt was made to peel off the greenish membrane covering this portion of the organ. It was scrubbed with a 1-1000 solution of bichloride and the edges turned in, and over-sewn with Lembert's suture, an opening having been made for drainage into the vagina. The patient rallied well from the shock, but after a month of alternate improvement and retrogression she died, exhausted. This case seemed to satisfy the definition of "missed labor."

A Speedy Method of dilating a Rigid Os in Parturition.

J. FARRAR (*British Med. Jour.*, September 17, 1898) reports a method for the quick and painless dilatation of a rigid os, which he discovered quite accidentally in attending a primipara, who had been in labor some forty-eight hours. The os was still thin, rigid, and obstinately unyielding, the margin feeling almost like a circle of sheet tin, and the opening not more than an inch in diameter. All attempts at stretching it, either with the finger or a dilator, both with and without chloroform, had been unavailing. India-rubber bags were tried with no success, as also chloral, bromide, morphine, etc. The pains were strong and persistent, and the patient was despondent and exhausted.

It was determined to incise the cervix, and as the patient's condition did not admit of the further use of chloroform, a ten-per-cent. solution of the hydrochloride of cocaine was prepared. A cloth was saturated with this and applied to the cervix inside and out, and left for four minutes between the margin of the cervix and the foetal head. At the end of that time, on introducing the scissors, it was found that not only had the rigidity disappeared, but the os was widely open and as distensible as a rubber bag.

It seemed certain that cocaine was the cause of the rapid softening and dilatation, but fearing that it might have been a coincidence, the writer waited until he had tried it upon four other cases, one being a primipara over forty years of age. In every case the effect was the same, the painless and complete dilatation of the os in from four to five minutes. In one case it was used simply to ascertain its effect, for although the os was rigid, the patient was young and vigorous, and there was no cause for anxiety or haste, but by its use the first barrier to delivery was painlessly removed, and the time of labor shortened by many hours.

A Possible Case of Superfoetation.

W. ROSETHORNE THOMPSON (*British Med. Jour.*, September 17 1898) attended Mrs. K., multipara, aged 42 years, in her confinement. The labor was normal in every respect, the child being full term, and the placenta and membranes coming away in twenty minutes. The uterus seemed larger than usual, but well contracted. For two days she complained of after-pains, and on the second day a vaginal examination was made and a number of clots removed. On passing the finger through the os a pain came on, and a small, round, presenting body could be distinctly felt. This was soon delivered and proved to be a two- or three-months' foetus, born with its sac of membranes intact. The foetus appeared to be perfectly normal, having no sign of atrophy or degeneration as would be expected if it had been conceived at the same time as the mature foetus, and had been less favored in nutrition. Yet when one remembers the rapid and important changes that take place in the ovum and uterus after impregnation, and the insuperable difficulties a spermatozoon would have to overcome in order to fertilize another ovum, one hesitates to believe this a case of genuine superfoetation. Nevertheless, this explanation naturally suggests itself.

Inversion of the Uterus.

JOHN J. BINGHAM (*British Med. Jour.*, September 17, 1898) was called in to see a woman who had been delivered by a midwife after a normal, though somewhat protracted, labor. The afterbirth came easily, with a pain, no traction having been made on the cord. The patient suffered from a constant bearing-down feeling, and a sensation of something in the vagina. The second day after delivery she got out of bed to pass water, and "felt something come down." The midwife was called, but did not know what to do and called the writer, who found the uterus, about the size of a cocoanut, turned completely inside out. There was no pain and no hæmorrhage, but extreme collapse. Her condition was so serious that it was deemed best to merely return the uterus to the vagina, and wait for the patient to rally. After four hours, chloroform was administered and the inversion reduced. After reduction there was no cervix visible, the os was as wide as the fundus. The patient was very low, but after half-an-hour's artificial respiration and subcutaneous injections of ether and brandy, she rallied, and ten days later came down stairs no weaker than after an ordinary labor.

Extra-uterine Pregnancy.

JAMES OLIVER (*British Med. Jour.*, November 26, 1898) reports a case of extra-uterine pregnancy occurring in a woman of 28, who had never before been pregnant, although married three years and a half. She menstruated regularly until last March, when no discharge appeared. Morning sickness began soon after passing the period in March, and continued for two months. There was also pain in the hypogastrium during urination. The abdomen increased in size, and there was no further menstruation until August 8th, when a hæmorrhagic discharge appeared for two days, recurring on August 24th, and lasting a week. On September 2d there was an attack of pain in the patient's left iliac region, lasting but a short time. On September 5th bleeding again began, lasting until the 24th, when an operation for the removal of the fœtus was performed. At that time the left half of the abdomen was markedly more prominent than the right. A pyriform tumor could be felt, reaching to the umbilicus. No sounds could be heard over the tumor. The uterus seemed to be incorporated with the tumor postèriorly.

On opening the abdomen the placenta was found to be implanted on the anterior abdominal wall, extending some inches on either side

of the incision. It was separated as well as possible from the abdominal wall, but failing to reach the free edges, an opening was made in the placenta and the foetus delivered through the breach. The rest of the placenta was then removed. The foetus of five months had been dead some weeks. It had been lodged in the substance of the left broad ligament, and had separated the bladder from the uterus. The cavity in the broad ligament was packed with gauze, which was removed twenty-four hours afterward.

Convalescence was uninterrupted.

Evidently no hæmorrhage from the uterus had occurred until after the death of the foetus, but although this had taken place six or seven weeks before the operation, there had been no constitutional disturbances, the pulse and temperature remaining normal.

A Fatal Case of Hydatidiform Mole.

DAVID ROSS (*British. Med. Jour.*, December 17, 1898) was consulted on October 18, 1898, by a patient who considered herself five-months' pregnant, and who was having some swelling of the feet and ankles. A saline laxative and rest were prescribed. The following day a severe hæmorrhage occurred, and the next morning a hydatidiform mole the size of a large placenta came away. The writer was hastily summoned and found the patient almost in a state of collapse from loss of blood. On exploring the uterus, it was found to be practically empty, only a few vesicles being brought away. Ergot was prescribed and on October 20th she seemed much better, and on the following day sat up in bed for a few minutes. On the 23d she complained of dyspnœa. Thinking this was due to anæmia, saline solution was administered by rectum; but the dyspnœa increased until the patient was obliged to sit up in bed. A diagnosis of embolism and subsequent thrombosis of the pulmonary arteries was made, and ether, ammonia and brandy given to stimulate and maintain the action of the heart, but the patient died on October 25th, in great distress. No autopsy could be obtained.

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THE RELATIONS OF PELVIC CELLULITIS TO RECENT
PELVIC SURGERY.

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There appears at the present time a tendency to readjust the surgery of the female pelvis, and to study on broader and more scientific lines the relation of intra-pelvic inflammatory conditions to radical and aggressive surgery. This tendency renders the present, therefore, favorable to a renewal of the study of pelvic cellulitis as elaborately as is permissible in an article of this description. It was accepted as settled, not so very long ago, that all relating to intra-pelvic inflammation was well understood, and its ultimate results and pathological limitations clearly defined. This was the dogma of the text-books and the pedagogical teaching of the lecture-room. Inductive methods, except in two notable instances were lacking in this study. The literature of the subject was crude and illogical. The data were not those of facts, but the ex-cathedra utterances of men who were accidents of the hour. American gynæcological literature was sadly at fault in giving a false position to that form of pelvic inflammation known then, as now, by the term of pelvic cellulitis. The progress of science is not measured by time, but by facts, and the logical deductions of minds trained to observe unwarped by bias. With this standard of measurement in view it is not many years ago in time, but a century in progress, that questions, such as now lie before us, were largely settled by authority. A few men were given, by a sort of general consent, the right to settle questions, both of procedure and pathology, by cleverly expressed opinions which found wide acceptance. This was a source of error, not only concerning pelvic cellulitis, but many other matters relating to the diseases of women. When the American Gynæcological Society came into

existence this group of men was overthrown. Their preeminence and dogma were alike unable to withstand the fearless criticism and dissent that now found voice. Not only this country, but wheresoever gynæcology was cultivated as a science, felt the impulse of this independent group of thinkers and was stimulated to new methods and a clearer view of facts.

The few illustrative cases which follow are selected from a large number, that as clear a picture of this many-sided disease as is possible may be given. They are not selected to build up a theory, but to illustrate a condition. It matters nothing what this condition may be called so that a clearly defined lesion may be described. These cases also furnish the various data that build up a practical differential diagnosis. Further, facts are presented, which, in their anatomical results, render it positively necessary that parts external to the peritonæum were involved. If these few cases were multiplied a hundred fold it would simply be of the nature of cumulative evidence, and not serve to render the facts more clear, or the deductions more logical.

Case 1.—Mrs. B., married, aged 49, sterile, called to see the patient by Dr. Dewitt of Oswego. The early history is practically unknown, so far as explaining the *status presens*. Dr. Dewitt had charge of the case for three months, during which time the condition was unchanged. The physical examination showed a tumor of the left side reaching from the pelvis up to the ribs and extending to the right half way to the umbilicus. On palpation an obscure fluctuation could be elicited equally diffused over the mass. On vaginal examination the mass could be plainly palpated to the left side of the pelvis extending downward on the vaginal wall two inches, and invading the posterior cul-de-sac about half an inch to the middle line. The left vaginal prolongation appeared fixed to the pelvic wall, and to have dissected the soft parts from the bony surface. With the right hand over the mass a distinct impact could be given to vaginal tumor. On inspection of the surface of the vagina, the rugæ were obliterated on the left side, and the surface smooth and shining. The left leg from the body to the foot was enormously swollen, measuring more than twice the circumference of the right limb. The surface was smooth and shining, pitting below the knee. The thigh was slightly flexed upon the body and the leg upon the thigh. Any attempt to straighten the limb excited extreme pain, as well as any effort to move in the bed. The patient made no complaint of abdominal pain and tenderness, all the discomfort being referred to the leg. The general appearance of the patient was haggard and emaciated, sleep was difficult except under opiates. The temperature,

since coming under the care of Dr. Dewitt, was rarely elevated above 99° with a slight subnorme in the morning. An examination of the urine gave a small amount of albumen and a few granular casts. Menstruations had ceased since the beginning of her illness, at that time about eighteen months. The history as stated by the patient threw but little light upon the case. She had had for several months a severe pain upon the left side but with no enlargement for several months that she was aware of, or to which her attention was called by her physician. About a year previous to the date of my visit her leg commenced to swell and became very painful and tender. She was then treated for inflammatory rheumatism. She had received no pelvic examination until Dr. Dewitt had become her attendant and I also understood that Dr. Dewitt was the first to discover the abdominal mass, and which had remained unchanged during the three months of his attendance. The woman was in a deplorable condition and would evidently die very shortly, unless something could be done to relieve her. I stated, as my opinion, that the abdominal mass was of pelvic origin, that it was the beginning of the trouble and that the swelling of the leg was due to obstruction of the venous circulation in the left pelvic extension of the tumor. As to the character of its contents I declined to state. The history, so far as the absence of temperature and any surface discoloration, appeared contrary to the theory of pus-contents; but, with the explanation excluded, I feared malignancy. To clear the obscure points I advised an exploratory incision. To this Dr. Dewitt concurred, and a few days after my return home I received notice to come to Oswego and operate. On August 5, 1895, I did the operation assisted by Drs. Dewitt and Doude.

The mass was explored through a small incision in the middle line. The mass was confined by a thin wall to the left iliac fossa and the left abdominal cavity. The peritonæum was reflected over the tumor centrally. It was evident that the accumulation was extra-peritonæal and that no portion of its wall could be brought to the middle line for safe opening, an incision was made guided by a finger within the abdomen. A large amount of pus, yellow and odorless, escaped. A drainage-tube was inserted and the central wound dressed like an ordinary cœliotomy. Uterus, tubes, and ovaries were normal.

The case is one of the most remarkable in my experience, and is an extreme instance of true pelvic cellulitis. Its pelvic extension was demonstrated by the exploring finger within the abscess sack, and from which point it no doubt had its origin in the iliac fossa. Its extension upward by ascending dissection of the peritonæum from a portion of

the parietal surface and from the intrapelvic muscles was in the direction of the least resistance. The flexion of the thigh upon the body was characteristic of pelvic inflammation of an extra-peritonæal character, involving the psoas and iliacus muscles. The unusual feature was the long confinement of the pus without seeking an exit of positively three months from the beginning of Dr. Dewitt's attendance and probably many months more, as the tumor underwent no change during that period. The absence of temperature proves nothing, as at the time of the operation the pus was probably sterile—as pus frequently becomes when long confined. The time of active pus was most likely at the period of the so-called acute rheumatism, about a year previous to my visit.

Case II.—Mrs. M., aged twenty-two years, no history of previous pregnancy, and of healthy family history, was referred to me by Dr. D. H. Murray of Syracuse, as a case of possible ectopic pregnancy. Menstruation was regular up to November 29, 1893, and may have occurred since, but was obscured by a watery blood-stained discharge. This discharge became more free and presented the appearance of a menstrual flow again on December 8th. It was followed by the same blood-stained discharge when I examined the patient, December 15th. The discharge was present to the extent of soiling one napkin a day. There was tenderness and pain in the right iliac space, and by external palpation a semi-fluctuating mass, about the size of a Massena orange, by combined manipulation this could be traced downward on the pelvic wall, being closely confined to the right side. Its downward extension was slightly below the vaginal-uterine junction, not obliterating the lateral cul-de-sac, but extending into it from the pelvic wall. While uterine movement was impaired, the organ was not firmly fixed. The left side of the pelvis appeared free from disease. The pain was of a character to confuse her attending physician and his council, it was intermittent and irregular. It was never of an explosive character, but severe enough to demand the moderate use of morphia by the mouth. No decidua was cast off at any time, nor was there any sign of rupture of the tube among the painful symptoms complained of. The rectal examination was very painful, which was partly accounted for by a rectal abscess which had been opened by Dr. Murray early in September, 1893. From this direction the mass was observed firmly fixed to the pelvic wall, reaching to the left as far as the lateral uterine wall, but well defined from the uterus. The downward prolongation into the lateral border of the right vaginal cul-de-sac could be caught up between the exploring fingers in the rectum and vagina. The temperature

record was not known at this time, but while in the hospital, prior to the operation, there was a mean range of morning 98.5° to 99.5° , and evening 100.5° . Dysuria was present at irregular intervals and the urine free from albumen. A large number of physicians saw the case and all gave an opinion of ectopic gestation.

Professor A. B. Miller, gynæcologist to the House of the Good Shepard, wrote me a personal note stating his opinion that beyond all doubt it was a case of extra-uterine pregnancy and that primary rupture of the tube had already taken place. While I gave no theoretical diagnosis I could not concur in the opinion of abnormal pregnancy. There was, for instance, no tension in the tumor, the pain was of moderate intensity, of even character, and not intermittent, there was no decidua cast off, and the borders of the mass were diffused, not sharply defined. As the tenderness and pain were persistent and the patient bed-fast the necessity of operation was evident. She was admitted to the Central New York Hospital for Women, and the operation performed in the presence of Drs. D. H. Murray and Randall. The tubes and ovaries were healthy, the ovary being attached by slight adhesions to a mass upon the right side of the pelvis, extending downward deeply and upward over the brim of the fossa. Omental and slight intestinal adhesions were separated, extending upward to the caput coli. While working downward in the pelvis to find a line of cleavage, my fingers penetrated a cavity, followed by a free gush of pus which flowed over the pelvis. This cavity extended downward between the folds of the broad ligament and from thence the finger could trace it laterally to the bony wall of the pelvic cavity through numerous trabeculæ, to the vaginal junction in the right lateral cul-de-sac. It was an old abscess lying between the folds of the broad ligament and the intra-pelvic cellular spaces of the right pelvic wall. The tube and ovary on the right side were removed on account of their near proximity to such an accumulation of pus, the cavity of the abscess was freely washed out and a drainage-tube inserted. Recovery was without event and the patient has enjoyed good health since. This abscess could have been opened and drained through the vagina with much better results, and I think if I had had the advantage of longer observation of the case an abdominal operation could have been avoided. The adhesions observed in no way indicated cœliotomy, as such complications may safely be left to take care of themselves.

The superficial character of the adhesions contrasted with the extent of the abscess and the amount of local injury produced by it prove conclusively that the cellulitis was the prior lesion and the omental and

intestinal adhesions secondary as to time, and propagated by proximity of surfaces.

Case III.—Mrs. C., referred to me by Dr. J. W. Sheldon of Syracuse. Aged forty-nine years; married twenty-eight years; two children, one surviving, twenty-seven years old. Family history good. Previous history obscure. Chronic invalidism for many years; the disability referred to the pelvis; ceased to menstruate at forty-five years. Thinks that she has not been well since. She has been obliged to give up most of her household duties, as she was at frequent intervals subject to pelvic pain and tenderness with bloating of the bowels. Present condition: Patient much emaciated. Pelvic examination revealed the pelvis filled with a mass which appeared to be made up of adhesions occupying both sides, but in greater mass to the left, reaching nearly to the crest of the ilium. The uterus was firmly fixed. On rectal examination the uterus appeared buried in a mass of adhesions and exudate, the pouch of Douglass being filled, and latterly, by this route, the exploring finger as far as it could reach, the induration of the pelvic roof could be demonstrated. External palpation was extremely painful, while a mass could be detected occupying the iliac fossa on the left, that on the right being free. The abdomen was largely distended and tympanic. Urination was at times painful and frequent, the urine being free from albumen. Defecation was very painful and the constipation difficult to relieve. Food and nutrition reduced to a minimum. She was admitted to the Central New York Hospital for Women, November 5, 1893, and the first temperatures charted were: mean morning, 100.4°; evening, 102.3°. It was very evident that pus was lurking somewhere within the pelvis, but no point of softening could be detected. Her condition was such at that time, in view of the extensive pelvic disease, that cœliotomy was too hazardous. It was deemed best to see if it was possible to better her nutrition and improve the heart, which was in a very bad condition, by delaying the operation, especially as it would require considerable urging to gain her consent to such a measure. With proper food and stimulants her improvement was quite rapid. On the sixth day after admission there was a free escape of pus through the rectum. It was hoped that the pelvic mass would show some diminution and the fever abate, but while the pelvic condition was unchanged, the temperature went up, the evening rise fluctuating from 103.5° to 104°. I soon discovered the cause. The pus was in an active condition, and the absorption was more direct and rapid from the rectal surface than from the pyogenic membrane of the pus sac, as free and frequent rectal irrigation through a double rectal cannula demon-

strated by a very marked abatement of the temperature. After this there was a somewhat improved general condition. The next step in the development of the case was a pain of very intense character in a circumscribed region on the left posterior surface of the ilium at a point half way on a line from the tuberosity of the ischium to the crest of the ilium. The pain was so severe as to require frequent hypodermics of morphia. Circumscribed tumefaction and redness soon cleared up the nature of the process going on at this point. Under the promise that I could relieve the pain the patient overcame her morbid dread of the knife, and twenty-six days after her admission, under a local anæsthetic, an incision was made at this point. It required a bold dissection of over three inches in depth before pus was reached in the region of the ischiatic notch. A drainage-tube was inserted penetrating inward and upward for over six inches, which was irrigated several times a day. The discharge of pus was very free, and the exit through the rectum closed. From this date the patient rapidly improved. The great mass occupying the pelvic cavity and the iliac fossa gradually diminished, the temperature regained the normal and the appetite returned. The drainage-tube continued to discharge pus for thirty-four days when it was removed and the opening rapidly closed. From this on the recovery was phenomenally rapid. The pelvic mass and adhesions disappeared, and uterine mobility was restored by the time she was discharged from the hospital after a residence of four months. At no time since has there been any signs of a return of the extensive inflammation that had for so many months occupied the pelvis.

This case is one that reiterates the old practice before the days of radical abdominal surgery, not that its lesson should be followed to-day in its full significance, but it clearly points to the fact that had I opened the abdomen I would have been justified in making a most conservative operation; that no measure was called for other than that necessary to evacuate the pus and establish suitable drainage. Cases of like character are within the experience of all old gynecologists and general practitioners, the first because they saw these cases before the days of pelvic surgery, and the latter because they do not operate. I take no credit to myself, however, because I felt obliged to resort to the accepted surgery of the day had Mrs. C. consented. This in no way diminishes the significance of the case as reaffirming the old surgical rule, to evacuate pus wherever found with as little injury to near parts as possible, and also as proving that if intra-pelvic cellular spaces are drained in pelvic cellulitis mere pelvic adhesions may be left to take care of themselves without any tinkering through the abdominal wall.

Case IV.—Miss H., aged twenty-nine, single, servant and dress-maker, robust up to the development of maturity at 16, at which time dysmenorrhœa developed and she gradually became a neurotic. Each period was a severe trial to her vitality. Her family history was good. She had been curetted and her cervix dilated and incised by various physicians. She came to me for treatment in 1887, she was very much emaciated, her appetite very poor, suffering from flatulent indigestion. There was no history of peritonitis or of acute illness of any kind. She had simply grown thinner and weaker and less able to get about. The pelvic organs were too sensitive to examine without an anæsthetic, the uterus was firmly fixed by adhesions. No enlargement of the uterus, tubes, or ovaries could be detected by bimanual palpation. The induration extended over the pelvic roof and downward on the vaginal wall on the left side of the pelvis, the soft parts being hardened and thickened about an inch below the lateral vaginal fornix. The same thickened, indurated condition continuous with the upper portion of the lateral infiltration extended into the posterior vaginal cul-de-sac, where it showed as a distinct ridge, free from, but encircling the posterior portion of the cervix uteri. Through the rectum this extension of the pelvic exudate could be distinctly palpated by the exploring fingers in both passages as situated in the recto-vaginal wall, and as continuous with the infiltrate above. The uterus was retroverted and firmly fixed. As she was nearly confirmed in the morphine habit it was thought best to castrate with the hope of arresting the monthly crisis.

She was admitted to the Woman's and Children's Hospital of Syracuse, and the operation made. The ovaries were studded with numerous small cysts, the tubes were clubbed and filled with sanious fluid. There were a few adhesions, quite firm, binding the uterus down posteriorly, but when broken up, the organ retained the same degree of fixation. This appeared to be due to a sub-peritonæal infiltration extending down the left pelvic wall into the left broad ligament. The finger was forced between the folds of the ligament with a view of opening lurking trabiculæ of pus but none were discovered. There was nothing further to remove except the uterus, and as such a measure had not been submitted for the patient's consent prior to her anæsthesia, it was not undertaken. Recovery was prompt and she was discharged in three weeks. The uterus had not regained its mobility, but pelvic tenderness was considerably diminished and the patient complained of less pain on walking. Three months later she returned to me; she had a slight discharge of blood every three to five weeks without the former pain and tenderness. Examination showed the same condition, dimin-

ished in subjective symptoms but the fixation and infiltration had not changed. I thought that something could be done by incision through the vaginal exudate with drainage. This was done with an incision through the mass on the left vaginal wall and extended into the infiltrated ridge posterior to the cervix. At this point the finger dissection was carried upward and to the left anterior to the rectal wall and posterior to the peritonæum, but not entering the peritonæal cavity. I was quite surprised at the ease with which the finger penetrated the tissues in this direction, no pus or other fluid appeared; bleeding was quite free. A strip of iodoform gauze was packed into the tract of the exploring finger. The gauze was removed every third day, and in this way the opening was maintained for about three weeks, when the gauze could be no longer inserted. During this period a bloody serum exuded amounting to a considerable stain upon a napkin removed twice a day. Free vaginal douching was employed twice a day. The results were very good, pain, tenderness, and the bloody uterine discharge discontinued and the uterus, although retroverted, was becoming mobile. The exudate upon the vaginal wall disappeared. The theory of the procedure was simple, cellular tissue spaces were opened up and gradually drained of serum, and tension being thus relieved, absorption took place in the more solidly organized products of inflammation.

It is difficult to understand which was the primary and which was the secondary condition, or whether there was any sequence between them. It would appear, from the history, that the salpingitis was the initial lesion; but if so, it existed without peritonitis and intra-pelvic adhesion. The induration of the pelvic roof was the result of infiltration, which showed no disposition to clear up until drainage was established.

Case V.—Mrs. B., aged twenty-eight, married, one child five months old. Healthy until birth of child. Good family history. I found the patient bed-fast and greatly reduced in flesh, she had not been able to leave her bed since her confinement. The history, as related by the patient, was a rather prolonged labor of twenty hours and final delivery by the forceps, with extensive injury to the perinæum, and which was sutured the morning after the delivery. Union failed and suppuration was very free in the stitch-holes. Everything went well until the fifth day, when a severe chill occurred followed by fever. The chills and fever recurred at irregular intervals for many days. On the fourth day from the initial chill severe pelvic pain occurred which required repeated hypodermic doses of morphia to control. The pain was diffused through the pelvic region, but after several days became local-

ized upon the right side, where a swelling gradually formed. These were all the facts that could be learned from the patient. The attending physician had been discharged and the family declined to have him brought further into the case. I found the pulse 110° and the temperature 102°. Inspection showed the abdomen very tympanitic and discolored from constant fomentation and poultices. The position of the patient in bed was upon the left side with the right thigh strongly flexed upon the body and the leg upon the thigh and brought forward upon and across the left leg which was extended. The right leg could not be extended without using more force than the patient could bear. It was with difficulty that the patient could be placed upon the back for examination. Upon the right, extending upward from the pelvis to above the crest of the ilium and reaching to within two inches of the middle line, was a fluctuating mass. Midway from the crest of the pubis to the anterior spinous process was a circumscribed, softened and livid area, where evidently "pointing" had already occurred. An examination through the vagina showed the uterus considerably displaced to the left and fixed, the cervix crowded upward behind the pubis and the fundus correspondingly depressed backward. Upon the right side of the cervix an indurated mass could be felt which appeared nearly wanting in fluctuation as the external mass was palpated. Urination was normal and the urine free from albumen. A severe bed-sore, entirely neglected, was found over the left trochanter majus. Pain was constant, for which she had been taking from four to eight hypodermics of morphia daily, with a total amount of the drug from three and a half to four grains. Defecation was attended with very severe pain and was greatly dreaded by the patient. Under ether spray a free incision was made over the place of pointing with an enormous escape of foul-smelling pus. The relief from pain was immediate and thereafter, with proper bolstering, the patient could be kept on her back, the fluxed right leg supported by pillows. The escape of pus continued about two weeks, when it gradually ceased and pain and temperature returned. It was evident that something more radical must be done. A counter-opening naturally suggested itself, and under ether anæsthesia an incision was made posterior to the cervix in the vagina; as the uterus was laterally displaced to the left in order to avoid the important blood-vessels lateral to the uterus, the incision was made at this point and finger-nail dissection resorted to. The parts easily gave way before the finger which worked upward, backward, and to the right until pus escaped freely into the vagina. The outer opening was then enlarged, and the finger inserted downward opening many

trabiculæ and severing numerous bands. From this on, recovery from the abscess was rapid, and the patient was soon out of bed. The immobile and flexed leg was another matter. It is needless to tell the story of the courage of the patient and the many months of passive motion, massage, and electricity before even partial use of the leg could be secured. It was sixteen months before the patient was able to walk out with a cane. Meanwhile all signs of the pelvic phlegmon disappeared. The uterus regained the normal position and mobility with healthy menstruation. She removed with her family to Dakota, and I have recently heard of her having had two children after normal labors.

The Necessity for a More General Understanding of Pelvic Cellulitis.

As has been already stated, this theory had held exclusive sway as the etiological factor in the pelvic pathology of women during the formative period of gynæcology, until it was deposed and nearly driven out of literature by the pelvic surgeon. By the fingers of the coeliotomist it was demonstrated beyond all doubt that what had been previously regarded as always an inflammation of the cellular connective tissue was oftentimes but an adhesion of near parts due to a peritonæal inflammatory exudate, or to a disease of the tubes and ovaries, while the cellular structure remained intact. This condition was found so frequently, that it was regarded that collections of pus in the pelvic connective tissue were rarely if ever seen, and that such collections of pus were in the Fallopian tubes, or in peritonæal spaces shut in by adhesive exudate; or they were designated by the collective and uncertain name of "pus-sacs." All scientific men must admit that this was a true advance, and that a vague and erroneous theory of pelvic inflammation was overthrown.

It was an undoubted fact that the term "pelvic cellulitis" was used in a most unscientific and even ignorant way. By it was explained all forms of pelvic adhesions and exudates and masses not evidently due to neoplasms. Mathews Duncan, before the advent of the pelvic surgeon, had already in his work on "Pelvic Para and Perimetritis," paved the way for a clearer view of the subject. Its final clearing up was by the pelvic surgeon. It was the revolt of the man of facts against the despotism of the man of theory. It was, however, by a strange inversion of logic, but the exchange of one form of despotism for another more arrogant and aggressive than the first. The surgeon became intolerant of the very term of cellular inflammation. Peritonæal and tubal diseases became the one and ever-present agent of pelvic inflam-

mation. Here the salpingotomist, after all his triumphs rested, and became, like the theorist whom he displaced, an obstacle to advancement. Established error had given way before the facts that he had demonstrated. Had he stopped here the advance would have been without a reaction. But he did more, he obliterated the very idea of cellular inflammation as a cause of pelvic disease and brought the term under such contempt that writers hesitated to admit its possibility.

After the performance of untold thousands of abdominal sections for the cure of pelvic inflammatory conditions, the more observing among this group of surgeons became aware of the fact that many of their patients were not cured, and were even made worse. Among them were numerous cases in which enormous tubal accumulations clearly indicated the operation, but masses of adhesions reformed, uterine fixation recurred, and the patient continued to suffer as before. Instead of coming logically to the conclusion that there was a condition beyond the reach of his operation and to which he had been blind, he concluded that the uterus was at fault, and which, with scant evidence, he now regarded as a functionless organ. With hysterectomy his cures were more complete and with the further misfortune of confirming the error. That this improvement was not the result, necessarily, of uterine extirpation I think I shall be able to demonstrate before the conclusion of the paper. With this more careful scrutiny of results there were indications that the crude operation of tubal and ovarian extirpation was becoming obsolete and that the future direction of surgical relief must be sought elsewhere. The reaction began to revive the old idea of pelvic cellulitis. It was the old theory, but seen in a new light. It was a crystallization of truth out of a mass of crude logic, and obliquely observed facts of the old authors. Now it is a well-defined and scientific term. We know what it is as well as what it is not. Limited in this way it is a positive advance in our knowledge of pelvic inflammation, and broadens the etiological factors of pelvic disease.

In this connection it is not improper to correct a wrong impression that has obtained currency. Bernutz, in his work on "Diseases of Women," known by the joint authorship of Bernutz and Goupil, is today the standard authority on pelvic inflammation; no authors are more frequently referred to, and more constantly misquoted. From the standpoint of the pelvic surgeon this work has been made to supplant the existence of cellulitis by that of pelvic peritonitis. Thus the general reader had been lead to the conclusion that by Bernutz's post-mortems and his analysis he had demonstrated that what was formerly regarded as inflammation of the pelvic peritonæum, that masses within the cavity

of the pelvis were agglutinated organs, and that pus, instead of being external to the peritonæum, was within, confined in sacs formed by sero-adhesion inflammation, or within the tubes. The reader ought to be informed that the work of Bernutz was largely controversial in character and aimed against the contention of Nonat, as to the cellulitic origin of peri-uterine inflammation, and which error the works of the earlier American authors were responsible for its perpetuation in English literature. Without this motive it is doubtful if Bernutz's collaboration would have assumed the form it did. In reviewing the extensive literature of this subject since the advent of the pelvic surgeon it is remarkable how frequently this author is referred to in general terms and how seldom any specific reference is made; and consequently it was difficult to correct the false impression that obtained currency.

A single brief quotation is all that is necessary. At pages 4 and 5 of the second volume of the New Sydenham Societies' translation, the author says, "Hence it results that the progress of the inflammation of the cellular tissue almost necessarily tends toward the abdominal walls, or else to the deep iliac fossa. Hence phlegmons of the broad ligaments are justly so called, and they ought to be studied with phlegmons of the iliac fossa, of which they are a very interesting variety. It is not here a question of phlegmons of the broad ligaments. These affections are undoubtedly located in the cellular tissue of the lateral parts of the uterus, as numerous autopsies have testified." On page 145 we have a chapter on the "Diagnosis of Pelvi-peritonitis and Phlegmons of the Iliac Fossa." This chapter is the best written and the most scientific in the literature of the subject. It is thus seen that Bernutz specifically excludes all consideration of the subject of pelvi-peritonitis, and yet he is made to overthrow the whole matter of pelvic cellulitis, a subject that he says nothing about except to admit its truth.

Great as is the pelvic surgeon's responsibility for the general misunderstanding of the scope of Bernutz's work, yet the splendid contribution of this master appealed to deaf ears until this group of gynecologists brought it prominently forward as a justification of what they were proving by their operations, and what he had far more clearly demonstrated on the post-mortem table. What the pelvic surgeon has done was not a demonstration and extension of our knowledge of pelvic pathology, but a new and brilliant surgical method of its treatment, and without which, notwithstanding its absolute demonstration and differentiation a score of years before, such is the density of the human understanding to a new fact as against established error, we would yet be acting under the old, false theory of pelvic cellulitis.

The Diagnosis of Pelvic Cellulitis.

As the motive of the paper is to establish as clear a differentiation as possible between pelvic cellulitis and other forms of pelvic inflammation, the symptoms are better studied in connection with diagnosis.

In the early diagnosis history offers important factors. From general experience, phlegmons of the iliac fossa belong to the parturient condition, or follows delayed abortion. Where some disease of the generative organs exists prior to the development of intra-pelvic inflammation it is presumptive of pelvi-peritonitis. In cases of specific infection through the vaginal route, the infection is an ascending one, and in which the salpingitis is primary to the peritonitis, the diagnosis is not difficult. Under any circumstances of the latter it is difficult to separate the tubal inflammation from the peritonitis, so exceptional is it to find one without the other. The initial symptoms are essentially those of inflammation and no differentiation can be risked at this stage. The greater frequency of pelvi-peritonitis ought always to throw the burden of proof upon the possible cellulitis. We have very justly come to regard the peritonæum, surgically speaking, of no importance; when, however, it becomes inflamed its behavior resembles that of a vital organ. Cellular structure is without these vital reactions. Pelvic peritonitis is very frequently introduced by a severe chill with an equally sharp febrile reaction, which is rarely the case in cellulitis. Bernutz makes the pain in both diseases similar in situation and in its radiations, and being equally affected by pressure and movement, but in peritonitis it is acute, pleuritic in character, while in cellulitis it is dull, lancinating like that of a beginning abscess. To this it may be added that an arterial throb is quite symptomatic of the latter. Bernutz, further, assigns great importance to the relative period of the onset in the puerperal phases of the two diseases; to which I can only conform in a general way. "The differential diagnosis of these two affections, where the puerperal fever is uniform and of moderate severity, approximates that of the non-pregnant (puerperal?) state." The elements of this diagnosis are: first, the initial abdominal pain is remote from the labor in phlegmons, near to it in pelvi-peritonitis; secondly, in the former the febrile reaction exceeds in severity the disturbance of the digestive function, while the reverse obtains in the case of the latter; thirdly, the different character of the two swellings. "Thus, in pelvi-peritonitis the inflammation comes on generally within ten days after delivery, while in phlegmon eighteen or twenty days will elapse, the case up to that

time being, or appearing to be, normal." Bernutz in another place qualifies this nearly to the point of nullification by saying that the diagnosis is not easy after parturition and that when the disease develops a few days after labor the diagnosis is especially difficult, the signs of cellulitis and pelvic peritonitis, being masked by the puerperal fever.

While the development of the disease is favored by the puerperal state and by abortion, they are not limited to these conditions. Case I. shows an enormous psoas abscess. They may result as terminal infections of many diseases. Salpingitis with its supervening peritonitis may result from many causes now well understood. Cellulitis, while more confined in its field of final causes, has numerous determining factors. The middle-aged, under-fed, over-worked woman whose vital resistance is broken down against the invasion of infection. The rheumatic, the tuberculosis, intestinal diseases, with exposure, are every day to be experienced. It is evident that numerous causes, aside from the puerperal state, to aid us in differential conclusions, are met with. We must, therefore, trust more to local than to general conditions for a correct diagnosis. Let us begin by saying that pelvic peritonitis is purely a pelvic disease, while pelvic cellulitis is both within and without the true pelvic cavity. When the mass formed by peritonitis is palpable in the hypogastrium it is late in the attack, and due to repeated relapses. The plank-like indurations, as Duncan calls it, to be felt in the vaginal cul-de-sacs, do not extend above the brim of the pelvis and never extend laterally into the iliac fossa. In cellulitis these extensions may take place in a very short time. In phlegmon the swelling is less evident to vaginal touch, being confined close behind the horizontal rami of the pubes but rapidly appreciable in the hypogastrium, "that is, to say, as soon as the inflammation has extended from the neighboring cellular tissues to that of the iliac fossa" (Bernutz). The extra-pelvic character of cellulitis is further defined as the inflammation extends into the cellular tissue of the abdomen or psoas muscle.

It must be a matter of common experience to the pelvic surgeon that many forms of pelvic peritonitis are met with in which, notwithstanding great extension of inflammation, repeated relapses and agglutination of near parts pus is not met with. In contradistinction we have the suppurative form, but it is rare, compared to the former. In general terms it may be stated that suppuration is rare in pelvic peritonitis and confined to certain forms of infection while it is the common termination of pelvic cellulitis.

Concerning the purulent, or sero-adhesive form of pelvic peritonitis, it will serve a double purpose to follow the description diagnostic of

the two diseases of Bernutz and Goupil; first, because it is the best extant, and second, it will have a good moral effect to put this ill-quoted authority right before the reader. This form of peritonitis when it is so intense as to develop in a short time a mass to be palpated, both through the vagina and abdominal wall, in the direction of the iliac fossa, is differentiated from cellulitis by the evidences of peritonitis in the one case, and of cellular inflammation simply in the other. Further, the tumors offer distinctive features. That of peritonitis, even when extending into the superficial fossa, have a marked intra-abdominal character extending into, or across the middle hypogastrium, and which is never found in the pure phlegmon. When the deeper iliac region is involved in the case of cellulitis there is retraction of the thigh, which is a position distinct from any form of pelvic peritonitis. When the tumor extends from the middle hypogastrium into the fossa there is a want of definition in its lateral extensions in case of pelvic peritonitis while in cellulitis it is sharply defined without any tendency to blend into near parts. When the tumor of the sero-plastic form of peritonitis forces the uterus forward, so as to be more readily felt through the abdominal wall, it forms a retro-uterine mass, which is never observed in phlegmon. This form of tumor can also be found in cases of chronic pelvic peritonitis with relapses, and distinguishable from cellulitis in the same way. In the sero-plastic suppurative form the tumor presents a sense of elasticity or obscure fluctuation, different from the firmness of cellulitis. The position of the uterus also affords some differential symptoms. With the retro-uterine tumor we find the uterus displaced forward and forced upward or when infiltration fills one of the lateral vaginal cul-de-sacs the cervix is forced to the opposite and the uterus assumes an oblique lateral position, a condition not observed in cellulitis. "The swelling of the phlegmon, which is dull only on very superficial percussion, has its upper border so clearly defined that when the extreme sensibility has passed away, we can push the abdominal wall behind it as it were. In pelvic peritonitis, on the contrary, it is not parietal; it rises out of the pelvis, escapes the middle line, and carries the fundus uteri forward and to the healthy side." (Bernutz.) Often such portions of the tumor of either as may be palpated through the vagina have nearly the same characteristics while in pelvic peritonitis that part which extends into the abdomen never offers the palpable signs of cellulitis. In cellulitis the growth of the tumor is regular, while in pelvic peritonitis the advance is irregular, due to recurring relapses. When deep-seated phlegmons displace the intestines and fill the iliac fossa, as may be often observed, on percussion the intestinal note flattens to extreme

dullness on a sharply defined line. The tumor of pelvi-peritonitis never displaces the intestine, and often a modified intestinal percussion sound is detected over certain portions of the mass. In the latter also the tumor rises out of the pelvis in the middle hypogastrium, while in cellulitis the direction of the tumor is along the crest of the ilium, and lastly through the upper portions of the broad ligament to the middle region. In inflammation of the cellular structure of the psoas muscle this is nearly always the rule. (Case II.) We may have extensive cellulitis of the psoas with very little, if any, vaginal tumor. This absence indicates an early, not a late, stage of the invasion. (Case V.)

In the true phlegmon of the broad ligament we have a local condition more easily confounded with the exudate of pelvic peritonitis. Bernutz says that the cellulitis of this appendage is very difficult to detect through the vagina, or even during life, unless the cellulitis has extended to the abdominal wall or the psoas muscle, and thus produced the typical phlegmon of the fossa. Careful palpation will always reveal the mass within the broad ligament when present, and it is extremely difficult to determine it from that of pelvic peritonitis. The absence of peritonitis in one case and its presence in the other is marked. The induration of the broad ligament mass does not so directly enter into the lateral cul-de-sacs, and is always absent in the Douglas space. In the later stages the lateral fornices and the posterior cul-de-sac become involved, but in this case the lateral hypogastric spaces will also present a distinct tumor with mutual increase in size, both per vaginam and externally, and indicates the presence of suppuration. It is during this further extension of the cellular inflammation that the abdominal wall becomes involved, a condition never attending even the most advanced stages of pelvic peritonitis. This implication of the abdominal wall is sometimes so marked that the fingers can be pressed under the edges of the inflamed area. In an instance of this kind that mass is bounded by the ilium on one side and the free border of the infiltrated abdominal wall toward the middle hypogastrium on the other. This is a rare diagnostic trait, and while it may never be confounded with pelvic peritonitis, I have seen the same phenomenon present in cases of malignant disease of the abdominal cavity with an extension of the process to the wall of the abdomen. In the case I have in mind there was no danger of such a mistake, as the disease was entirely abdominal and not pelvic. A careful palpation of the abdominal wall ought to make the fact clear that it was extra-peritonæal and that the intestines as well as the peritonæum were pushed away from the direction of the superficial iliac fossa. It is not a little singular how extensive disease may

be without involving the peritonæum. In one case described by Bernutz there was an enormous collection of pus in the iliac fossa with plastic infiltration of the cellular tissue of the broad ligament, but another collection of matter was found in the cellular tissue of the mesentery. It was interposed between the layers of the iliac mesocolon and rested above the broad ligament and strange to say this extensive inflammatory process had gone on without any peritonæal implication.

I have already briefly alluded to the fact that the sources of infection will throw some light on the nature of the probable results. Etiological conditions may sometimes be clearly defined. The pelvic inflammation may sometimes be due to gonorrhœal infection. The result is, almost without exception, pelvic peritonitis instead of cellulitis, and the former primarily to the latter when present. There is one rule, which is as true as any rule in the matter of disease, which I have found a safe guide; namely, infection that follows the route of the sexual canal and reaches the peritonæum through the tubes will cause peritonitis. Infection which gains access through lesions of the soft parts will cause cellulitis or inflammation of the lymph channels. Rough, or ill-advised intra-uterine treatment, or the use of the sound very often causes serious intra-pelvic inflammation of a serous form and very rarely cellular. In the presence of uterine fibroids the small, tender masses sometimes detected in the base of the broad ligament are usually due to lymphangitis and not to cellulitis, as I have had several occasions to verify, in doing hysterectomies. The history of the infection, therefore, may throw considerable light on the character of a pelvic mass when in doubt of its true character. In certain cases, such for instance, as pelvic inflammation following the use of the intra-uterine sound, an intra-uterine lesion may cause a mixed infection and lead to both peritonitis and cellulitis of which I have seen one instance, and a clear confirmation of the rule stated above that an infection associated with a lesion leads to cellulitis.

It is important to consider more in detail some of those diagnostic features of the two diseases which have received only casual mention.

(To be Continued.)

COMPLETE INCONTINENCE OF URINE.*

BY L. GRANT BALDWIN, M.D.,

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The subject matter of this paper, or the cases to which your attention is invited are new or that the treatment employed is in any way unique, the reporter does not for an instant suppose.

That a woman suffering from complete incontinence of urine is in about as distressing and uncomfortable a condition as can be well imagined will be accepted without qualification.

After a somewhat careful review of the recent text-books on gynæcology I have failed to find any very satisfactory discussion of cases similar to the ones I shall report. The only class of cases of complete incontinence which I shall consider are those due to injury to the anterior wall of the vagina, causing a prolapse of the upper third of the urethra; necessarily the neck of the bladder must accompany it to an uncertain extent.

The urethra was not dilated in any case, but even if such condition had existed, incontinence would not of necessity follow so long as the urethra was not loosened from its fascial attachments to the pubic bone, the so-called triangular or sub-pubic ligament. And right here comes the important question as to whether the bladder and the urethra have a sphincter muscle or not. On this subject authorities differ. Emmet, I believe, denies that one exists. From the mechanism involved I am inclined to side with those who believe that there is one, but have made no dissections to substantiate it.

Questions of anatomy should naturally be easily determined, but such is not the case very often; for example, we are all aware of the absolutely conflicting descriptions of the levator ani muscle.

One thing is certain, and that is that where any organ is held in a position of comparative immobility it must be done by the fascia, white fibrous or yellow elastic tissue, for such is not the function of muscle.

Kelly reports cases in which two fingers could be passed into the bladder and yet no incontinence existed. He also speaks of a partial incontinence due to injury to the outer muscular fibers from compres-

*Read before the Woman's Hospital Society, December 20, 1898.

sion of the child's head in passing through the birth canal, and classifies them all under dilatation of the urethra. The fascial attachments of the urethra are likely always involved, more than the muscular coats of bladder or urethra in cases of either partial or complete incontinence, for we must not forget that a muscle can only act interruptedly and is not capable in any instance of giving *constant* support.

Cases in which there is or has been any central nervous lesion or where any inflammatory condition exists in any part of the urinary tract are not considered in this report. And in no case was the bladder sufficiently prolapsed to be called a cystocele.

Skene, in his article on inflammatory diseases of the bladder, mentions partial incontinence in moderate prolapse of the bladder with dilatation of the upper third or the urethra, the leaking being brought on by any sudden increase of the intra-abdominal pressure, the main causes for complaint being the frequent and painful urination.

Skene says, "Regarding dilatation of the upper third of the urethra, I am inclined to believe that it occurs in consequence of a partial prolapsus of the bladder and the upper third of the urethra," and in speaking of the symptoms he says, "In addition to the frequent, it may be constant, desire to pass water the patient is tormented with partial incontinence." Again, in speaking of symptomatology of dislocations of the urethra, he says, "The symptoms arising from displacements of the urethra are much the same as those found in dilatation and other urethral diseases. I need not, therefore, repeat them in detail. Suffice it to say that in dislocation of the upper portion of the canal there is, in addition to frequent urination, a partial loss of control of the bladder."

Pozzi dismisses the whole subject of incontinence, partial and complete, after devoting little more than half a page to its discussion.

Partial loss of control of the urine is very *frequently* observed by all. Oftentimes the patient with the least demonstrable lesion of urethra and bladder will suffer much more from incontinence than another with gross lacerations and prolapse of the anterior vaginal wall, and in many cases it is impossible to determine why this is so.

Cases of partial incontinence are, for the most part, seen and treated by the general practitioner. Injuries due to child-birth and obstinate constipation are the usual causes. The prevention in the second class of cases is, of course, evident. As to the prevention of injuries to the anterior vaginal wall during the passage of the child's head through the birth canal, much might be said.

The teaching of our obstetric authorities is at variance and con-

stantly changing in the matter of vaginal examinations in normal labors. Just now I believe the diction is that no examination per vaginam shall be made, but rather to depend upon external palpation to determine the progress of the labor as well as to diagnose the presentation and position.

In my opinion, the accoucheur is able to do but little, if anything, to insure a delivery without injury to the maternal soft parts by this method. I think a better rule is to note the exact progress of labor by more or less frequent examinations, for without examinations the injuries to the anterior wall under discussion cannot be prevented.

By so doing complete dilatation of the cervix can be assured. As the head passes into the true pelvic cavity the anterior lip of the cervix can be pushed up over the occiput; later, as the head comes down on to the pelvic floor it, with the anterior wall of the vagina, can be carried up behind the symphysis pubis, instead of being crowded down before the oncoming head, and getting caught between the head and the pelvic bones. I am aware that the advocacy of this manipulation is in no wise new or unique, but I am sure it will bear emphasizing and practising. And if done we, as gynæcologists, will see fewer cases of cystocele and urethrocele with partial or complete incontinence of urine as a result, and there will also be met much less frequently patients suffering from complete procidentia.

Case I.—Mrs. H. B., aged 64 years; married thirty-five years; mother of four children, the youngest twenty years old; no miscarriages; menopause at the age of 46 years, without incident of particular note. Labors were normal as far as she knows; had been complaining for six years; consulted me in November, 1897, for complete incontinence of urine, when on her feet, standing or walking; in the sitting position there was partial control, unless disturbed by coughing, sneezing, or any other violent expiratory effort. Bowels were regular without medicine and always had been. The urine was normal in character and amount; in fact, she was in perfect health but for this one distressing symptom. Superficial examination revealed a senile condition of all the genital organs. A closer investigation showed the urethra to be prolapsed at its upper third. In a case without symptoms I would not have noted *any* cystocele. She had been sent to me from New England, and expected an operation would be necessary in order to secure relief. I am free to say that had operative procedure been indicated I would not have known how or what to do. We are all aware how unsatisfactory are the results of operations on the anterior wall of the vagina. A rather small and short Emmet hard-rubber pessary gave

instant, complete, and permanent relief. Why the incontinence should date back only six years, her period of widowhood, instead of twenty or more years to the birth of one of her children, I do not know.

Case II.—Mrs. M. B., aged 57 years; married 25 years; mother of one child, 24 years of age; no abortions or miscarriages; complaining for ten years. Came into my service at St. Peter's Hospital in January, 1898. Incontinence began with coughing or sneezing, but soon became complete, except when in the recumbent posture. There was no desire to urinate in the day time. She had worn a guard constantly for ten years. The condition was the same as in Case I. Her labor was easy, but rapid, being in labor only a few hours, and was attended by a midwife. During these ten years she had been more or less constantly under the care of various medical gentlemen of this city, without benefit. The same style of pessary accomplished the same result as in Case I.

Case III.—Miss X (Sister of Charity), aged 30 years. The only history of anything abnormal up to September, 1897, was *obstinate* constipation. This had existed from childhood. The strongest cathartics had been used for years, and an action of the bowels was accomplished by the severest straining. It was not an uncommon thing for nearly or quite a week to pass without having a stool.

In September, 1897, it was observed that the urine could not be entirely controlled. Within a very short time there was absolutely no control when either sitting or standing; when in bed there was control, but on rising in the morning if the bladder was not emptied *at once* the urine immediately commenced to escape and could not be stopped until the bladder had evacuated itself completely. Examinations showed the external genitals to be in a normal condition and free from inflammation. The uterus was proper size and in its position of normal anteversion and freely movable; the cervix was a little forward of its normal location. The urine was found to be normal in every way. The urethra was torn from its moorings back of and underneath the arch of the pubis. Considering the age of this patient, her station in life, and that her duties were those of a teacher, a more distressing condition could hardly be imagined. From the constant wetting of the clothing frequent "colds" occurred, and this, with the worry and constant mortification, had made severe inroads on her general health. Before coming under my care in January, 1898, some of the best-known gynecologists of this city had been consulted.

My success with the two previous cases made me too sanguine of the immediate relief that I could promise her. I first tried the same pessary, of a suitable size, as I had used in the other cases, but with

only temporary relief of a day or two, when the leaking was as bad as before. I was, of course, handicapped by a rather tight hymen and small vagina, but during the next few months I tried many different modifications of the ordinary, and I may say extraordinary, pessaries, without benefit. My patient had become completely discouraged and I must admit that I shared her fears that I at least was not going to be able to offer her any relief. Operative measures seemed to be out of the question.

Just at this time it occurred to me that a round ball might furnish the support I was trying to obtain. The first one that was tried was gotten from the toy store and made of the ordinary white rubber, but it gave complete relief. For this one I substituted one made of pure rubber. These two were $1\frac{3}{4}$ inches in diameter and have been worn now for over six months with perfect relief and unconsciously. I shall for this one substitute a glass one providing I am able to pass it through the introitus.

28 Schermerhorn Street.

A FIVE-GALLON OVARIAN CYST REMOVED FROM A GIRL OF SEVENTEEN.*

BY R. R. KIME, M.D., ATLANTA, GA.

Miss P., from North Georgia, referred by Dr. F. C. Richards.

Admitted to Atlanta Retreat, August 11, 1898; aged 16 years, being 17 on the 13th of August.

First flow at 11 years of age, irregular, three to six weeks, lasting three to four days, of longer duration last two or three months.

Bowels constipated when not taking laxatives.

Temperature ranging from 99° to 101° F., pulse from 66 to 104 per minute, variable and weak.

Abdomen immensely distended, encroaching on chest.

Patient weak and anæmic.

Breathing difficult, with occasional palpitation of the heart.

Digestion very much impaired.

Patient small and slender, probably weighing 75 or 80 pounds after removal of tumor.

* Read by title before the Southern Surgical and Gynecological Association at Memphis, Tenn., December 6, 7, and 8, 1898.

Kept at Retreat for five days for preparatory treatment.

Distention of abdomen increased perceptibly each day, as observed independently by patient, nurse, and myself.

Tumor removed August 16th, assisted by Drs. Hurt, Collins, and Stockard. Ether given by Dr. J. A. Childs, who feared death on table from weak action of heart and obstructed breathing. Operation lasted forty-five minutes.

Cyst adherent to omentum (tied off at three points with silk), also adherent to parietal peritonæum in right inguinal region at a point of inflammation due to suppuration; separated without rupture; after removal a half pint of pus was evacuated from this point. Had a broad pedicle ligated in sections from left broad ligament. Right ovary normal; was not removed. In puncturing cyst with ovarian trocar to draw off contents a thick, viscid, greenish, straw-colored flood, the wall being so thin and brittle, ruptured, allowing part of fluid to escape.

The amount drawn off into bucket measured thirty-three (33) pints. It was estimated one (1) gallon was lost on towels, table, and floor. After removal by puncture of numerous small cysts about one-half ($\frac{1}{2}$) gallon more fluid was obtained, making a total of over five gallons.

A median incision of about six inches was first made, then enlarged to nine inches, which soon contracted to about five (5) inches after tension on abdominal wall was removed. Found it very difficult to introduce needle through contracted thickened skin, using through-and-through silkworm-gut sutures.

Abdomen flushed with sterilized water, glass drainage-tube inserted, and wound dressed as usual. Very little shock, patient progressed nicely, bowels moved second day, kidneys acting seventeen (17) times first twenty-four hours, gradually lessening in frequency thereafter.

During evening of second day evidences of commencing bronchitis developed. On morning of the third day had a cold stage, followed by pneumonic inflammation, with pulse of 140 per minute; temperature, $103\frac{1}{5}^{\circ}$ F.; respiration, 40, with most marked cyanosis I ever saw.

Used hypodermics of strychnia and digitalin every three to four hours. Quinine sulph. and camphorated Dover powder every four to six hours.

A cough mixture of codea, mur. ammonia, sp. nit., æther, and syr. *Prunus Virginiana* was used.

Calomel $\frac{1}{8}$ grain was given with quinine when needed to arouse secretions.

The pneumonic inflammation soon run its course and lungs gradually cleared up, while pulse remained high for some weeks.

Patient made a complete recovery and returned home five weeks after operation.

This case is reported not because of anything new in operative technique or pathology, but to direct attention to size of tumor and rapid growth compared to age and size of patient; also, to note accompanying complications.

Case II.—Mrs. W., aged 26 years; married seven years; had three children, youngest 3 years; labors all difficult; the first, forceps delivery. Two miscarriages, last in March, 1897, at which time I saw her when she had been in labor three days. The physician in charge being detained with another case.

Found her with severe pains, labor obstructed by a semi-solid mass filling the hollow of sacrum; placed patient in exaggerated Sims position, carried tumor upward, allowing foetal head to enter pelvis, and delivered within thirty minutes.

Did not see patient again until she called at my office July 6, 1897. Patient reported having more or less pain, elevation of pulse and temperature, with occasional chill since March. No flow since lochial discharge checked. Examination revealed uterus anteverted, pushed to left, and up above pubes. A large cyst in Douglas' pouch and right broad ligament size of a child's head, semi-solid, adherent, tender, and painful; uterus somewhat enlarged, softened; cervix and vagina slightly darkened in color.

A provisional diagnosis of pregnancy, complicated by suppurating dermoid cyst, was made.

Patient watched a few days. Found pulse 90 to 100; temperature, 99° to 101° F., with occasional chills, but refused operative measures until September, when she consented to vaginal incision and drainage. The extensive, firm adhesions, stage of pregnancy, and low vitality of patient were not favorable to coeliotomy (abdominal). Taken to Atlanta retreat, September 8th. Æther given, vaginal incision made, and three pints of cheesy, purulent, fetid material removed, with some small bunches of hair. Cavity irrigated, disinfected, and drained with rubber tube and packed with gauze. Marked nausea and vomiting after operation for three or four days, then gradually improved until the 16th, being eight days after operation, when she miscarried.

Called early in the morning, found foetus in the vagina, free hæmorrhage, placenta in uterus, patient weak, anæmic, and almost pulseless. Had to remove placenta as rapidly as possible with forceps, curette and tampon uterus; work completed in a very few minutes; patient was unconscious; unable to count radial pulse. Used hypodermics, saline

solution, and stimulants; patient rallied and slowly recovered without any infection of uterus, septic or putrid.

Drainage of cyst kept up for some months, then dispensed with. Uterus has returned to normal size, flows regular, no discharge, cyst cavity filled up, very little evidences of cyst wall left behind, and patient in better health than for years.

I considered the vaginal incision a life-saving measure in this case and justified by the results. The patient admitted afterward that miscarriage was due to her getting up, walking around in room and to closet, during absence of the nurse.

PROLONGED RETENTION OF A DEAD EMBRYO WITHIN THE UTERUS.*

BY LUTHER C. PETER, M.D., PHILADELPHIA.

When the title of my paper was sent to your president, the clinical facts in the case warranted a diagnosis of retention for five years, and although the result of a microscopical study of the uterine scrapings throws a shadow of doubt upon the diagnosis, the weight of the evidence is in favor of retention for a long period.

The history of the case is as follows: The patient is 30 years old, married, the mother of four children, one of which is living. Five years ago last August, when three-months' pregnant, she attempted to induce an abortion by passing a skewer into the uterus; this failed to bring on labor pains but set up a localized peritonitis, which was treated by a regular physician. A second effort to induce abortion was made by the physician in attendance, after the inflammatory symptoms subsided. Pain and hæmorrhage followed the introduction of the dilator and in forty-eight hours the abortion was said to be complete. Fever and tenderness in the lower part of the abdomen developed, and a brownish, offensive discharge began to flow from the vagina. The septic condition continued for two weeks, during which recovery was for a time despaired of; the symptoms, however, gradually subsided

¹ Read by request before the Philadelphia Obstetrical Society, December 1, 1898.

and finally disappeared, with the exception of the foul discharge, which continued uninterruptedly throughout the subsequent five years. Menstruation returned and has occurred at intervals varying from two weeks to twenty-eight days, the flow continuing for seven to ten days at each period.

Nine months ago when the patient first came under my observation, I made the following memorandum of her condition: She is a small woman, of spare muscular development, somewhat anæmic, but to all appearances in a fair state of health. Her uterus is about three and one-half inches long, slightly retroverted, and freely movable; the cervix is large, indurated, and eroded. From the external os flows a brownish discharge of a highly offensive and persistent odor. Within the cervical canal are hard, calcareous bodies and pieces of bone, some of which are easily dislodged, while others remain firmly imbedded in the cervical tissue. There apparently is no tenderness upon pressure of the uterus or its appendages.

Measures were adopted to relieve her condition so far as possible and after seven months of solicitation on my part the patient finally consented to have the uterus curetted, which was done November 8th, my friend, Dr. I. W. Lytle, assisting.

Under ether anæsthesia the bones and calcareous bodies were removed from the cervical canal. The internal os was patulous and admitted the curette without difficulty into the uterine cavity. A stream of sterilized water which flowed through the curette washed out a small thigh-bone; and later another thigh-bone, two upper-arm bones, parts of the skull, the sternum, scapula, several ribs, and numerous particles of disintegrated bone and a soft, pulpy, decomposing mass were removed and the uterine walls thoroughly scraped. The walls of the uterus were smooth except over a small area which marked the attachment of the placenta. You will observe that the bones are very dark in color and give evidence of being imbedded in decaying tissues for some time. The patient made a good recovery; the temperature being normal throughout, and the bloody secretions which continued for several days were entirely free from odor. About three weeks have elapsed since the day of curettement and up to this time there is no indication of a return of the discharge. The cervix is firmly contracted and the cervical canal is of normal caliber. The patient has not menstruated since the operation.

So friable were the tissues removed with the curette that I hardly hoped to find anything but a structureless mass upon microscopic section, but in this I was mistaken. The sections are not typical, but show

distinct evidence of placental tissue in a fairly good state of preservation with numerous foci of calcareous degeneration.

The question naturally arises, was this a retention of five-years' duration or did conception take place at a more recent date in a uterus whose membranes were thoroughly diseased? The most incredulous will admit that the bones give evidence of having remained for some time, and the clinical facts indicate that the product of conception was retained throughout the period mentioned.

1. The history is quite clear and given intelligently by the patient, who was totally ignorant of her condition, thinking, as her physician advised her, that she had a chronic endometritis following her early septic trouble. The foul discharge dates from the abortion, over five years ago; menstruation returned at intervals varying from two to four weeks—never longer than twenty-eight days, except upon one occasion thirty-one days—and the flow has been excessive. In addition to these facts the patient has not had at any time the subjective symptoms of pregnancy.

2. Although possible it does not seem probable that conception would take place in a uterus so thoroughly diseased as to give rise in itself to the profuse, foul discharge.

3. The results obtained by emptying the uterus and curetting its walls seem to indicate that the source of the discharge was the decomposing embryo.

The microscopical study of the scrapings, however, hardly confirms these conclusions. It is hard to conceive of soft placental tissue being retained in the uterine cavity for five years, in so good a state of preservation. From a clinical point of view it is equally difficult to conclude that pregnancy of a recent date occurred in a diseased uterus, when the evidence is so strongly in favor of a retention of long duration. That the product of conception was retained fully nine months, I am reasonably sure. At my first examination I removed with forceps some of the hard masses which occluded the cervical canal and in addition to the calcareous bodies there were pieces of bone which had the appearance of fetal skull bones—the only possible source from which bone might get into the uterus and cervical canal. Notwithstanding the apparently good condition of small parts of the placental tissue, I think it fair to conclude that the embryo was retained for a long time and probably since the early abortion five years ago.

It is generally thought that a dead fetus or embryo is not retained *in utero* much beyond the limit of gestation at which time nature endeavors to throw it off and, indeed, if we can draw any conclusion

from the number of cases reported in recent medical literature, the tendency is to expel it at a much earlier date. The length of time varies much with the cause of retention. When death of one of the foetuses in twin or multiple pregnancies occurs, the dead foetus is usually retained until the other child is matured and is expelled with the living child, or it may be expelled at an earlier period without interrupting the full development of the other child. "The duration of retention produced by adhesion of the placenta," says Lusk, "in cases of single pregnancy, is protracted until such time as morbid placental processes impair the vitality of that organ and induce its separation." Retention due to so-called "loss of irritability of the reflex center" it is said, may be prolonged indefinitely. In the latter instance, however, a distinction should be made between retention of a mummified or macerated foetus, whose membranes are intact, and a foul, decomposing mass with ruptured membranes, prolonged retention of which is unusual. In a search through the literature on the subject I have not found a case similar to the one reported, although it is quite possible that some may have been omitted. The older writers, however, have published numerous cases, interesting, and in some instances startling, but usually without sufficient confirmation to be of scientific value.

In his essay on "Retention in Utero of a Dead Foetus," Kemper cites a case reported by Dr. Fox (*Wes. Jour. Med.*, vol. ii, p. 385) in which the foetus was retained five years and found post-mortem. A retention of seven years is recorded by Dr. Hartze, in the *Amer. Jour. of the Med. Sciences*, vol. xxv, p. 541. In 1834 the *Osservatore Medico* of Naples published an account of a foetus retained eleven years and by the same authorities is reported the case of a woman who thought herself pregnant for fifty-one years, and in whose uterus was found, post-mortem, a desiccated, full-term child. The account of an interesting case is given by Dr. P. De Marmon (*N. Y. Med. Jour.*, vol. x), in which a woman gave birth to a healthy, full-term child and forty-eight hours later expelled from her uterus a six-months' foetus in a state of decomposition. The condition that usually obtains under these conditions is desiccation or maceration of the foetus.

Dr. Halley gave an account of the following authentic case before the Obstetrical Society of London in 1866: His patient, in 1862, when three-months' pregnant, had uterine pains and hæmorrhage, and passed several fleshy masses. The hæmorrhage ceased and several days later an offensive discharge appeared and continued subsequently for about four years. The catamenia did not return. At intervals the woman passed small particles of bone and in 1866, under chloroform anæsthesia,

Dr. Hall Davis and Dr. Halley, to quote the authors, "removed with a pair of long dressing-forceps, fifty-nine pieces of bone, the accompanying discharge being very offensive. On the following day twenty-seven additional pieces were removed, and one came away subsequently, making a total of eighty-seven. Each of the three manipulations took from two or three hours, during which she was kept under chloroform." The patient made a good recovery. The technique may be somewhat primitive, but the facts are conclusive—a retention undoubtedly of four years.

Of no less interest is the history of a woman who was a distant relative of my patient, who, when pregnant for the second time, had some labor-pains at the end of gestation but was unable to deliver her child. The late Dr. Agnew was called into consultation and advised operation for the removal of fibroids. The patient declined operation and lived subsequently, although a great sufferer, for twelve years. At post-mortem examination a mummified, full-term child was found in the uterine cavity and numerous fibroids surrounding the uterus. In this instance the cause of retention was manifestly mechanical obstruction to labor.

These cases, some of which are authentic, demonstrate beyond doubt that a dead foetus or embryo may remain *in utero* indefinitely, either as a dried or macerated mass or in a state of decomposition. In the latter condition, however, retention is rarely prolonged beyond three to six months.

In connection with the interest in the clinical facts, two questions appeal to me as worthy of some consideration, first as to causation and second as to the effect of retention upon the health of the mother. Most authorities agree that all cases of retention belong to one of three classes, namely, first, due to mechanical obstruction, *e.g.*, contracted pelvis, new growths, indurated cervix, extra-uterine pregnancy, etc.; second, due to adhesion of the placenta after the death of the foetus, and, third, due to so-called "loss of irritability of the reflex center"—a phrase of doubtful meaning. Physiologists tell us that a center for the uterus exists in the lumbar cord, but, on the other hand, clinical experience shows that the uterine functions are largely independent of the condition of the cord, *e.g.*, menstruation is not disturbed when the lumbar cord is diseased and parturition may take place even though there is complete paraplegia with involvement of the rectal and vesical centers. In a woman, therefore, whose spinal cord is apparently normal, it seems but natural to conclude that in the so-called loss of irritability

of the reflex center, the trouble may lie in the uterus; perhaps, in the uterine nerve fibers.

It would be interesting and, I believe, profitable to study the nerve fibers of the uterus, to determine any changes which may be associated with this condition.

The effect upon the health of the mother in retention of a dead foetus, we would naturally suppose, would be influenced very much by the rupture or integrity of the membranes, a decomposing mass in the uterus offering greater risk to the mother than a mummified or macerated foetus. Authorities, however, agree that fatal results are rare. Lusk attributes the favorable prognosis to the fact that "decomposition is usual only after protective granulations have formed upon the uterine mucous membrane and after complete closure of the uterine sinuses." In the case reported the only symptoms of which the patient complained were irregular and profuse menstruation and a foul discharge. This seems to be the history of most of the cases found in literature.

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ETIOLOGY OF MOVABLE KIDNEY.*

By C. S. BACON, M.D.,

Professor of Obstetrics, Chicago Polyclinic.

The kidneys lie in the upper and back part of the abdominal cavity, extending from the upper border of the twelfth dorsal to the third lumbar vertebra. Behind, they lie on the quadratus lumborum and erectores spinæ muscles below, while the upper extremities are against the diaphragm, separated by it from the pleural cavity. In front the right kidney is covered by the liver, duodenum, hepatic flexure of the colon, and the small intestines, while the left is covered by the spleen, stomach, pancreas, small intestine, and splenic flexure of the colon. The lower extremities reach to a line encircling the body a little above the level of the umbilicus and, therefore, in many cases slightly below the lower border of the ribs, yet they lie so well protected that, as a rule, it is impossible to palpate them unless they have an unnatural range of motion. A slight range of motion is normal, the kidney

* Read before the Chicago Gynæcological Society, December 16, 1898.

descending upon the expiratory descent of the diaphragm; in patients with abdominal walls that permit a satisfactory examination the lower pole of the kidney may be detected upon forced expiration. If, however, in such a case any of the usual symptoms of movable kidney are present we must class it among the pathological cases. In any case, if the greater part or the whole of the kidney can be felt it belongs to the displaced kidneys.

A kidney is almost or never displaced upward, always downward or downward and inward. It may be turned about any of its axes, but generally, as it descends, its long axis remains more or less perpendicular to the line of the vessels and so approaches more and more the horizontal direction, while the inner border, from looking inward and slightly downward, comes to look more and more upward. Sometimes a distinction is sought to be made between a simple descensus renis when the kidney lies lower but without change in the direction of the long axis, and dislocatio renis when the lower pole of the kidney approaches the median line. Clinically this distinction is unimportant and we may be content with a division of displaced kidneys into the three classes or degrees, *vis.*: those of the first degree when less than one-half of the kidney can be palpated, those of the second degree when more than one-half but not all of the kidney can be felt, and those of the third degree when the entire kidney can be grasped.

It sometimes but very rarely happens that the kidney is covered with a sac of peritonæum, which is reflected from the vessels, forming a mesonephron. In such a case the kidney is, of course, freely movable like a coil of small intestine and the name floating kidney is sometimes restricted to this condition. Clinically it is not always practical to distinguish such a floating kidney from a freely movable, displaced kidney and the distinction need not be insisted on.

A movable or floating kidney may be secondarily fixed by inflammatory adhesions in any part of the trunk cavity. We are, of course, interested in all dislocated kidneys, whether they are at the time movable or not.

A word should be said in regard to the congenital dislocations of the kidneys. From some abnormality in the anlage or in its development the kidney may lie anywhere in the abdominal or pelvic cavity. There is in these cases a corresponding abnormality of the vessels. The left kidney is much more often found thus displaced. An interesting example of congenital abnormality is the horseshoe kidney formed by an amalgamation of both organs and lying either in the middle upon the back-bone or to either side. The congenitally dis-

located kidneys are commonly fixed, are generally associated with other congenital anomalies, and from an etiological standpoint need not be further considered.

Much has been written about the causation of movable kidney and many theories propounded without, as yet, any complete agreement among the various writers. In this attempt to present to you the state of the question at the present time and indicate what, in the writer's judgment, are the most important factors, it will, perhaps, be well at the outset to call attention to a few striking facts concerning movable kidney, which must be considered in any etiological theory and which may furnish a key to solving the problem. These are:

1. The condition of movable kidney is much more common in women than in men.
2. The right kidney is affected in 90 to 95 per cent. of all cases, the left kidney in only 5 to 10 per cent., and both in 5 to 10 per cent.
3. The movable kidney is generally developed between the ages of 20 and 40 years.
4. Most women who suffer from this trouble have had children or have had some abdominal tumor removed, or have suffered from some wasting disease which has left them with relaxed abdominal walls or injured pelvic floors, or they have displaced the abdominal organs by tight lacing.
5. Movable kidney is frequently associated with prolapse of the other abdominal organs, the so-called enteroptoses.

The two chief facts to be explained and which in turn help to explain the etiology of the disease are (*a*) the much greater frequency of movable kidney in the right side and (*b*) the much greater frequency in women.

Let us now consider the way in which the kidneys are normally held in position and first their ligaments or attachments. After puberty the kidney enclosed in its capsule, or tunica propria, lies embedded in the fatty capsule, or tunica adiposa. This so-called fatty capsule at birth and during childhood is composed of areolar or connective tissue and holds no fat. Later the abundant quantity of fat is deposited to serve its well-known and important protective function. This capsule is simply a modification of the subperitoneal connective tissue split up to surround the kidney and unite it posteriorly to the fascia covering the muscles upon which the kidney rests and anteriorly to the various overlying organs. Hence, it may properly be called the true ligament of the kidney and is undoubtedly of chief importance in retaining it in position.

The other attachments differ on each side and must be described separately.

On the right side the upper and posterior half or two-thirds of the anterior surface is covered by the peritonæal reflection from the overlying liver. This reflection thus forms a peritonæal ligament that may be called the hepatico-renal ligament. This layer of the peritonæum now leaves the kidney to cover that portion of the hepatic flexure of the colon that lies upon the lower end of the kidney and at its internal angle is again fastened to it, thus binding down the colon to the kidney. The uncovered surfaces of the kidney and colon which lie adjacent are attached to each other more or less firmly by areolar tissue. This attachment of the colon to the kidney is probably of considerable importance in causing its displacement, as we shall see later that prolapse of the colon is often associated with movable kidney. It will also be seen that the uninjured attachments of the colon to the muscular fascia externally by the reflection of the peritonæum and above and internally to the abdominal wall by the mesocolon furnish a certain support to the kidney. Additional support is also derived from the connection with the descending portion of the duodenum which lies on the internal fourth of the anterior surface. The upper part of the peritonæal reflection from the liver, of which the lower part covers the colon as just described, extends over the anterior surface of the duodenum to unite on the left with the adjacent head of the pancreas. This segment of the duodenum thus covered by peritonæum and attached by areolar tissue to the adjacent kidney and pancreas must furnish the former a considerable degree of support. On the other hand, if it is displaced downward with the pylorus and first part of the duodenum, which may happen in enteroptosis, it may also pull the kidney along with it.

On the left side the tail of the pancreas passes clear across the kidney slightly above its middle. Above the pancreas the kidney is covered with peritonæum, which separates it from the stomach. This peritonæum is reflected posteriorly on to the spleen, whose posterior border is attached by areolar tissue to a small segment of the underlying kidney. Below the pancreas the kidney is also covered with peritonæum, which separates it from the overlying small intestine. This peritonæal layer is below reflected over the splenic flexure of the colon, of which a small segment is connected to the kidney by connective tissue. While the left kidney is not as extensively or firmly attached to the splenic flexure of the colon as is the right kidney to the hepatic flexure, it derives more support from it and is in less danger of being displaced by a displacement of it. The splenic flexure, as is well known,

has an unusually firm and high attachment by means of the costo-colic ligament that has nothing exactly corresponding to it on the other side.

This description of the anatomical relations and connections of the kidney shows that the left kidney is more securely attached and is also in less danger of being pulled down by displacements of the adjoining organs.

Besides the support which the kidney derives from its attachments to the adjacent structures there is also the effect of the intra-abdominal pressure resulting from the elasticity or tonicity of the abdominal walls. This pressure varies according to the position of the body. In the erect posture when the kidneys are especially subject to the influence of gravity, there is a considerable positive pressure, which must have an important bearing in preventing displacement.

Corresponding to these two ways in which the kidney is held in place we may classify the factors which produce movable kidney into (*a*) those which lessen or destroy the intra-abdominal pressure and (*b*) those which tend to weaken the attachments of the kidney.

The normal intra-abdominal pressure is lessened by all changes which produce a relaxation of the abdominal or pelvic walls. Most frequently this occurs at the birth of a child. During the later months of pregnancy the abdominal cavity has become much distended and its walls correspondingly enlarged. This is more marked the greater the size of the uterus, *e.g.*, in hydramnion, twins, etc. In cases of pendulous abdomen, when the fundus and much of the body lies in the sac, the stretching of the abdominal walls often reaches the maximum. Under normal conditions the abdominal walls should undergo involution in a few weeks and regain their original tonicity, so as to furnish proper support to the abdominal contents. When they have been over-distended, particularly in cases of pendulous abdomen, the normal condition is never regained. The proper involution is often much retarded or disturbed by getting up too early, without the proper support of a bandage, as well as by supervention of conditions interfering with the general health of the woman, such as infection, anæmia, which results from severe hæmorrhages, auto-intoxication that results from deranged bowel or kidney secretion, etc.

Parturition in another way is responsible for a disturbance in the intra-abdominal pressure, through the injuries to the pelvic floor that often result from lacerations. The full significance of these often develops later when the pelvic organs prolapse.

An intra-abdominal new growth, such as an ovarian cyst, causes the same overdistention of the abdominal walls as a pregnant uterus.

Its sudden removal by laparotomy leaves the walls in the same relaxed condition as occurs post-partum. Cases of movable kidney have been attributed to the relaxation following such an operation.

Still another and very important cause of relaxation of the abdominal walls is that which occurs in general emaciation. In a person who has been very fat the flabby condition in which the abdominal walls are left after the absorption of the fat is well known. But also when there was previously no excess of adipose tissue a wasting disease like typhoid fever or pulmonary tuberculosis will leave all of the structures of the abdominal parietics in an atonic condition that makes them unable to give the normal support to the enclosed organs.

Diastasis of the recti or other abdominal muscles or large umbilical or inguinal herniæ may so weaken the intra-abdominal pressure as to become a factor in causing movable kidney.

Still one other factor that acts in changing the intra-abdominal pressure may be mentioned and that is the influence of position. I do not now refer to the fact that gravity acts to favor prolapse of the kidney when the position of the body is any other than supine horizontal, but rather to the observation of Schatz, who has shown that under normal conditions the intra-abdominal pressure varies according to the position of the body. For example, when the body is bent backward the pressure is increased, and when it is bent forward from the erect posture the pressure is diminished. If the chest is supported by the arms resting on the elbows and the body bent forward the pressure may be reduced to zero. This is the condition in the case of those who bend over their work, as happens with seamstresses or school children. That a long retention of this position may have a detrimental effect is not improbable, the more so as there is often associated with the habitual use of this position a diminished nutrition.

Turning now to the etiological factors which cause a weakening of the kidney attachment, we notice first that the condition just considered, the relaxation of the abdominal walls, favors not only the falling of the kidney but also of all of the abdominal organs and more especially the stomach and transverse colon. This condition, called by Glenard splanchnoptosis, is very frequently found in the cases of movable kidney. Is this association a coincidence or does this prolapse of the colon and stomach help to cause the displacement of the kidney? There can be but little doubt that the latter supposition is true. The above-described anatomical relations of the hepatic flexure of the colon to the right kidney show how in its displacement it may drag with it the kidney. Likewise the fall of the pylorus will drag along the duodenum and

with it the attached kidney. On the left side the splenic flexure of the colon is higher and more firmly attached and so less readily and frequently displaced. It is, moreover, less firmly bound to the kidney than the hepatic flexure to the right and so its prolapse is less likely to affect the kidney. Also, the left kidney is held firmly by the tail of the pancreas, an organ so firmly fastened to the posterior wall that it is not generally influenced by gravity.

A supposition often advanced to explain nephroptosis is congenital weakness of the kidney attachments. It is true that movable kidney is often found in two or more generations but on account of the frequency of the complaint this may be simply a coincidence.

Perhaps more plausible is the theory of the weakening of the kidney ligament by the absorption of fat in the adipose capsule. In general emaciation this may occur, of course, in connection with similar changes in the abdominal walls. Thus there is at the same time a weakening of the outside support of the kidney and weakening of its attachments and also the dragging on the right kidney by the torpid, partly filled, and prolapsed colon and weakened and distended stomach. If, in addition, we have also the pendulous abdomen and prolapsed pelvic floor, with cystocele and rectocele resulting from numerous pregnancies and improperly managed labors, we have certainly the factors which cooperate most frequent in bringing about movable kidney.

A few other causes remain to be considered. Pulling on the ureter has been supposed by Knapp to be an important factor. He assumes that the traction is exerted by the presence of an enlarged, anteverted uterus. When the bladder is partially filled the weight of the enlarged uterus, *e.g.*, the gravid uterus of the first two or three months, resting upon the summit, will depress the base and with it the ureters. In support of this theory he adduces the findings of Saenger and others that in cases of cystocele and prolapse the ureters are tense and compressed. He also finds in a very great majority of clinical cases of movable kidney, anteversion, respectively, anteflexion. In this connection belongs the well-known fact that movable kidney is often first discovered in the first months of pregnancy. That a certain traction can be exerted upon the kidney by pulling on the ureter must, I think, be admitted. The amount of traction made in the way assumed by Knapp through the long tube bent over the pelvic inlet one would think rather small and not generally a very important factor.

A more important case of traction on the ureter is that caused by hydronephrosis. The weight of the urine sac lying near the kidney must often exert a certain pull. Of course, a movable kidney may

cause a hydronephrosis by producing a kink in the ureter. In the frequent association of one with the other one cannot always say which is primary.

The increased weight of the kidney would undoubtedly be a factor tending to weaken its attachment and in case of lack of support favor its prolapse. An increase in weight may be due to certain inflammatory diseases or to a tumor. Another cause of this increase in weight may be congestion coincident with menstruation. That menstruation affects a movable kidney is well known. During the interval it may cause no symptoms but upon the appearance of menstruation it becomes painful. There is congestion of the whole splanchnic area in which the kidney is included. The same thing is true during the beginning of gestation and this may explain the symptoms caused by movable kidney at that time.

The kidney attachments may be loosened by trauma. A direct blow or kick on the loins has been known to produce a dislocation of the kidney. A jar or fall on the feet or pelvis may do the same. These cases, however, are comparatively rare.

We must also mention the uncommon cases where the kidney has been displaced by pressure from above. This may result from an enlarged liver or from tumor of the liver or suprarenal capsule or from a distention of the pleural cavity, as in an empyæma.

There remains to be considered the effect of pressure applied to the kidney by the clothing and especially by tight-fitting corsets. As corsets are generally made and worn they undoubtedly press down the lower borders of the ribs, and with them the liver and kidneys. It is possible that a corset should be so made that its pressure should be exerted upward and so help support the kidney rather than displace it. It is, however, safe to say that not one corset in a hundred is so made. Hence, the influence of tight lacing must, in general, be admitted.

To recapitulate, the displacement of the kidney is due to a combination of two kinds of causes, those which weaken the kidney attachments and those which diminish the support furnished by the intra-abdominal pressure. The attachment may be weakened by pressure from above, as in case of enlarged liver or abnormal accumulation above the diaphragm or by tight lacing. They may be weakened by traction made by the ureters, colon, or duodenum. They may also be dislodged by a blow or jar or other trauma. Gravity is always an important factor, especially in cases of enlargement of the kidney, as in disease, tumor, or menstrual congestion. The attachments may also be congenitally weak or they may be weakened by emaciating disease

when the fat is absorbed. The intra-abdominal pressure is weakened or destroyed by relaxation of the abdominal walls or injuries to the pelvic floor, one or both of which conditions are often the sequelæ of labor, laparotomy, or emaciating disease.

SYMPTOMS AND DIAGNOSIS OF MOVABLE KIDNEY, WITH REPORT OF EIGHTEEN CASES.*

BY GUSTAV FÜTTERER, M.D.,

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Movable kidneys are quite a common disorder, generally occurring as a part of a condition called enteroptosis. But just the fact that they are of common occurrence makes it quite necessary that we should be well acquainted with the symptoms which the disorder presents. Our knowledge of this trouble dates back into the last century only. Anatomists alone then called attention to displacements of the kidneys. Thus, Bauhin found a left kidney in the left side of the small pelvis, where it was situated on the last lumbar vertebra and the upper part of the sacrum, its own upper pole being adherent to the lower portion of the right kidney, while Sandifort also found a kidney in the pelvis.

Drouin reports a very interesting case of a young girl of 17 years, who had died after a flow of blood from the womb lasting for three months which had suddenly stopped; she then vomited blood until she died. Drouin found the right kidney, which was very much hardened and "cartilaginous," weighing $1\frac{1}{2}$ pounds, lying on the cæcum, where it had strongly compressed the aorta and the vena cava. The kidney contained eight calculi, the largest of which was of the size of a pigeon's egg.

Heusinger, Guignon, Hebenstreit, Eustachi, Trew, Hommel, Loeseke, Lejeune, Vidal, Chambau de Montaux, and a few others, had found a kidney located in the pelvis, and Boinet saw one compressed transversely between the rectum and the bladder.

Hohl,¹ 1828, reports the first case in which a floating kidney was found in a living human being, but it was not recognized during life. In two confinements of the woman whose case he reports, the midwife

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found a tumor in the left part of the pelvis, which at each contraction of the uterus caused a constant and increasing pain and retarded the progress of the head. During the first confinement, after noticing the tumor, the midwife sent for a physician but the confinement ended happily and the after-birth followed before he arrived. Two years later, at the second confinement, the midwife again found the same tumor but trusted to the forces of Nature and again everything ended happily. The woman died at the age of 75 years and the post-mortem revealed a floating kidney behind the uterus.

Rayer² was the first to observe and describe the clinical picture of floating kidney. In his "*Traité des Maladies des Reins*," Paris, 1841, t. III., he says: "The movability of the kidneys, or the condition which allows them to descend, or to move forward or backward or upward behind the liver, is the source of various symptoms, especially of habitual pains in the abdomen and the corresponding organ, pains which have been mistaken for nervous colics, for hypochondriacal phenomena and even sometimes for neuralgia in the lumbo-sciatic region. It is a long time since I have called attention to this affection by giving cases.

"Velpeau and Gerady, my colleagues at the Hôpital de la Charité, Bell, Donné, Thirial, De Bang, have observed several cases in my clinic. I brought this affection of the kidneys to the knowledge of two physicians who were very anxious to find out the nature of continual pains which they themselves felt in the right lumbar regions, where they had diagnosed a movable tumor of the nature of which the most contradictory opinions had been given. Many years ago remarks have been made concerning the movability of the kidneys and of the displacement which they are able to undergo, but these remarks, besides being very incomplete, mostly given by anatomists, did not at all call forth the attention of physicians. Mesné, in a vague manner, has mentioned displacement of the kidney and the bladder, which, according to him, could be caused by either external violence or by internal causes, and most of the authors who followed his opinion laid particular stress on the fact that the kidneys may be displaced either by a tumor of the liver, the spleen, etc.; nevertheless, the following passage extracted from Riolan³ deserves to be mentioned: 'Although the kidneys seem to be strongly attached to the loins, they are nevertheless liable to leave their places to become displaced, to fall forward, sometimes even descending to the lower abdomen, which cannot happen without endangering life. The truth of this cannot be questioned. The cause is not only the melting of the fat capsule, but also

its enlargement and gain in weight, either by a tumor, which originated there, or by a calculus of the pelvis of the kidney. The kidneys are carried down by their own weight, as their ligaments are not strong enough to keep them in position, whence it happens that after having remained for a certain length of time in the place to which they had descended, they begin to rot, and become filled with abscesses.' Rayer then reports the following cases:

"1. A woman, 43 years of age; right kidney movable. Gastro-intestinal symptoms, hypochondria.

"2. Woman, 44, displacement and movability of both kidneys. Tuberculosis of the lungs. Hæmoptoe; pains in the abdomen.

"3. Right movable kidney in an old woman, who also had a crural hernia of the cæcum. The woman had pains in the lower parts of the abdomen, but it could not be observed whether they were due to the hernia or the kidney. After an operation for hernia, she died, and the autopsy revealed floating kidney.

"4. Movable right kidney. Pains in the normal location, which radiated into the lower abdomen. Pains and weakness in the lower extremities.

"5. Right kidney very movable, situated near the umbilical region, which had caused several diagnostic errors.

"6. Movable kidney; right side. Œdema of the right lower extremity. Post-mortem revealed the right kidney at the inside of the ascending colon, pressing on the vena cava inferior.

"7. Movable kidney, right side, causing abdominal pains and affecting the crural nerve.

"8. Displacement and movability of the right kidney, forward and downward."

Since then a great deal of literature has appeared on the subject. Permit me to give very short reports of some cases which I have observed. I wish to say that in every one of these cases a general examination has been made, and that I consider them all uncomplicated except probably two. Besides taking the usual history, the following questions were put to every patient:

1. Name, age and nationality?
2. Present trouble?
3. How long sick?
4. How did the trouble start?
5. Is there a feeling of weight in the abdomen?
6. Do you feel something moving in the abdomen?
7. Are there pains in the back, and on what side?

8. What is the character of the pain?
9. Are the disturbances more pronounced when standing, walking or lying down?
10. Are there any pains in the sacral region after slight exertion?
11. Dizziness?
12. Does pressure on the movable kidney cause nausea?
13. General nervousness?
14. Depression?
15. Palpations of the heart during attacks of the pain, or at other times?
16. Any symptoms from the stomach, as dyspepsia, nausea, vomiting, pains?
17. Gas in the abdomen, constipation or diarrhœa?
18. Does the discomfort increase at the time of menstruation?
19. Frequent urination?
20. Is there a slight burning in connection with urination?
21. Are there any disturbances which have not been mentioned?

To make the reports as short as possible, only the affirmative answers have been given and to make myself understood I will say that I call movable kidneys in which the lower pole, and probably one-half can be felt, first degree; if the whole kidney can be felt, second degree; if the whole kidney can be felt and is moved downward and forward, third degree.

Case I.—A girl of 12 years of age, of German descent. Right kidney movable, second degree. Complained of great pain in both lumbar regions, encircling the abdomen, and running upward in front of the sternum. She has been sick for nine months, when the pains had come on suddenly, and they were so severe that she generally could not sleep on account of them. The pains have been more of a dull character behind and more sharp in front. She also had sharp pains in the stomach and sometimes dizziness. Frequent urination, connected with a burning sensation. Stomach distended; urine normal; bandage gave prompt relief.

Case II.—Miss H., 15½ years of age; German descent. Sister of No. 1. Right kidney movable, second degree. Complained of fainting spells. She had not been feeling well for some time, and one morning at school, about two years before examination, she fainted. Occasionally she had dizziness and fainting sensations; also, nausea and pains of a dull or sharp character in the right lumbar region. Stomach distended. She has failed to apply the bandage, but feels better.

Case III.—Miss T. H., American, 24 years of age; right movable kidney, second degree. Pain at the pit of the stomach usually after meals, sharp in character. Dizziness, and severe headache, lasting for days at a time. Her trouble commenced after typhoid fever in the spring of this year. She has a feeling of traction and weight on both sides. The pains in the lumbar region, mostly on the right side, are sometimes dull and sometimes sharp. Pressure on kidney causes nausea. Sometimes slight burning sensation during urination. Has had dyspepsia, nausea, vomiting and pains after meals. Gas in the abdomen and constipation. Dizziness was quite marked. She is very nervous and suffers from palpitation., particularly when she has pains.

Case IV.—Miss L., a trained nurse, 26 years of age, German; right kidney movable, second degree. Was taking care of a patient of mine when one morning I noticed that she was very pale and seemed to be suffering. I inquired about her health and was informed that she had a headache and had had pains for the last twenty-four hours in the right lumbar region, also nausea and vomiting. I asked her to come to my office at noon, a distance of a few miles, and when she arrived she was quite exhausted. She told me she had not been able to come all the way down on the street-car but was compelled to walk quite a distance. For about a year she had had headaches, vomiting spells, pains in the right lumbar region, mostly of a sharp character, and occasionally flatulency. Stomach distended. Pressure on the kidney caused dizziness. Bandage gave almost complete relief. A bruit can be heard in the angle between the lower margin of the left lobe of the liver and the median line on the left side.

Case V.—Miss J., 27 years of age, Norwegian. Both kidneys movable, second degree. Complained of pains in both lumbar regions, particularly on the right. Had been sick for three or four years. When bending down to put a rubber shoe on the right foot, she felt a pain in the right lumbar region, and only since a year ago she has felt pains in the left side also. The pains are more pronounced when she is walking or standing, and on lying down she has them only occasionally. The pains are sometimes dull and sometimes sharp. Nausea, vomiting, flatulency. Pressure on the floating kidney causes dizziness. Stomach distended. Depressions. Bandage gives relief.

Case VI.—Miss C., 33 years of age, American. Right movable kidney, second degree. General nervousness. Hysterical; indigestion, fullness, sometimes pain. Dull pains in right lumbar region. Flatulence, constipation. Trouble started about three years ago.

Case VII.—Miss R., 29 years of age, German descent. Right movable kidney, second degree. Complained of dull pains in right lumbar region. Dyspepsia, constipation and depression of eight-years' standing. Sometimes has a feeling of weight on the right side of abdomen.

Case VIII.—Mrs. A., 25 years of age, German descent. Right movable kidney, second degree. No children. Backache, particularly when lying down, of a dull character. Trouble started two months ago with water-brash. Bandage gives relief.

Case IX.—Mrs. P., 26 years of age, American. Both kidneys movable, second degree. No children. Complains of dizziness, nausea, pain in the back and all through the abdomen, but worse in the upper portions. Has been ailing for ten years, when the trouble started gradually. Pains in the shoulders and left side. The disturbances are more noticeable when standing and during menstruation. The pain is of a dull aching character. Urination frequent in the morning; burning not often. Flatulency, constipation, and diarrhœa; general nervousness and depression. Palpitation occasionally. Stomach distended. Bandage gives relief.

Case X.—Mrs. M., 37 years of age, German. Right side, second degree. One child. Great deal of dull, distressing pain in the right side of the back. Dizziness and nausea of two-years' standing or longer. The trouble started with pains in the right lumbar region. She had a feeling of traction in the abdomen, and sometimes felt something moving, mostly on sitting. Slight burning with urination. Pains in sacral region after exertion. Dyspepsia, nausea, vomiting, pains in the stomach, flatulence, constipation, a great deal of dizziness, nervousness and gives partial relief.

Case XI.—Mrs. H., 27 years of age, Norwegian. No children. Right, second degree. Dizziness, choking sensations, particularly after eating candy and olives. Dull pains in right side and sometimes left. Very nervous. The trouble started about nine months ago with nervousness and dizziness; sometimes feeling of traction in the abdomen, and a sensation as of something moving. The disturbances increase when standing or walking. Dyspepsia, nausea, gas, constipation, palpitation. Nephrorrhaphy was performed by Dr. Henrotin. After operation a bruit could be heard to the left of the median line in the angle formed by the lower margin of the liver and the median line. The bruit has now disappeared.

Case XII.—Mrs. von K., 29, Swedish. Right side, second degree.

Sideache on the right side of back, dull in character. Dyspepsia, nausea, vomiting, pains in the stomach. Extreme nervousness. Frequent urination. Flatulence and often diarrhœa. Depressions and palpitation. The stomach distended. Bandage gives partial relief.

Case XIII.—Mrs. J., 35 years of age, German descent. Right side, second degree. Severe pains in the stomach after meals, which last for an hour or an hour and a half. Dizziness, headache, dyspepsia, nausea, vomiting. Treatment for gastric ulcer gave considerable relief, and bandage still more, so that now she is in fairly good health.

Case XIV.—Mrs. V., 27, English descent. Right side, second degree. Pains of a very severe character in the rectum, particularly on sitting down. No cause can be found. Pains in the left side of the back, very sharp. Never on right side. Trouble started gradually about seven years ago. Pains in the sacral region after slight exertion. Dyspepsia, nausea, vomiting, pains in the stomach, flatulency. Stomach distended. Sleeps with her legs drawn up.

Case XV.—Mrs. B., 31, German descent. Right side, second degree. Three children. Severe pain in stomach, with cramps and vomiting. Trouble started about three years ago, gradually. Pains in right lumbar region of a dull character, increasing on walking or standing. Frequent urination, nearly always with slight burning. Pains in the back, increasing during menstruation. Sometimes dizziness; palpitation during attacks of pain, rarely at other times. Stomach distended. Bandage gives but partial relief. Has been operated on by Dr. F. Henrotin.

Case XVI.—Mrs. B., 37 years of age, German; three children. Right kidney, second degree. Mainly stomach symptoms.

Case XVII.—Mrs. W., 37. No children. Right kidney, second degree. German. Constant pain in right lumbar region, sometimes dull, sometimes sharp, particularly on standing or turning in bed. Started one and a half years ago, when patient was struck a blow while in bed. Since then she has had these pains. Patient feels as if something was moving in the abdomen. Dyspepsia, nausea, distended stomach.

Case XVIII.—Mrs. E., 31 years. Right kidney, second degree. Norwegian descent. One child. Pains all through back, nervousness, insomnia. Started six years ago with backache, indigestion, and a feeling of traction in the abdomen. The pains are worse when standing, and also at night, and she also complains of soreness of stomach and bowels. Sometimes the trouble increases during menstruation, when she has choking sensations. Flatulency, constipation, pains more

in the right side. Stomach distended. In the angle between the lower margin of the left lobe of the liver and the median line a bruit can be heard which I had detected two years ago. At that time I had overlooked the floating kidney and thought that an abdominal aneurism was developing. But as the same condition prevails to-day, I now feel assured that there is no abdominal aneurism and it would seem to me that probably a kinking in the renal artery causes a stenosis which gives rise to the bruit. This belief is supported by two other cases where the bruit was heard in the same place. In one of these cases the bruit was heard even after operation, but later on it disappeared. The bruit can be heard plainly when the patients lie on their backs, particularly on expiration, while deep inspiration, moving the liver downward, makes it disappear. In the standing posture, also, it cannot be heard and it is confined to a very small area.

In literature I could only find two allusions to such a bruit or murmur. By Landau,⁴ 1884, who says: "Auscultation has not hitherto been utilized for diagnosis in the case of movable kidney. It is not, however, to be doubted in this case; also, a whistling murmur will be audible when twists or narrowing of the vessels occur," and by Cordier,⁵ 1896. In one of Cordier's cases the movability was accompanied by a throbbing in the region of the abdominal aorta, and this vessel's impulse was so plainly felt that an aneurism was suspected, particularly as there was also a distinct bruit. Cordier says: "While examining this case, having felt the pulsation of the aorta and the seeming enlargement of the vessels at that location, on pressing the kidney into its natural position it was noticed that the pulsation diminished very much and the decrease in the size of the pulsating enlargement was very perceptible. I cannot offer any other explanation of this phenomenon than that the aorta, with the vena cava, was pulled out of its bed, or that a slight kinking produced a partial constriction of the aorta (or more likely the vena cava), and a dilatation above or below the point obstructed."

Throbbing of the aorta, even to such an extent as to cause considerable discomfort, is often met with. Another, but rare, symptom is jaundice, probably caused by the traction of the movable kidney on its ligaments, and the ligamentum hepato-duodenale. Displacement of the colon is not seldom found, and can go to such a degree that there really is no ascending colon, as this portion of the colon may be found lying transversely. Edebohls⁶ calls attention to the coexistence of movable kidney and appendicitis. After his attention as to the possibility of a relation between both had been aroused, he made it a rule to examine every patient for movable kidney, and for the presence or absence of a

diseased appendix. He found that over 60 per cent. of patients with movable right kidney producing symptoms were at the same time the possessors of more or less diseased appendices vermiformes. The appendicitis varied from the mildest form of congestion and catarrhal appendicitis to the severer types of the disease, calling for surgical interference. So a movable kidney may be successfully anchored and still the symptoms may not be relieved, as many of them may be caused by appendicitis. Edebohls thinks that compression of the ileocolic branch of the superior mesenteric artery or superior mesenteric vein are the cause of those disturbances.

I wish to mention another case of Cordier's: "Mrs. J., aged 42, nullipara. Three years ago had both appendices removed. Later she was operated on for a post-operative hernia. At the time I first saw the case she presented the usual train of symptoms of movable kidney (by the way, these were the symptoms she complained of most before the first operation). She was greatly emaciated and had well-marked Dietel's crises, and accompanying these attacks she usually became slightly jaundiced in addition to presenting uremic symptoms, as headache, nausea, pain in limbs, etc. On examination, I could make out the outlines of the kidney, freely movable, and in addition, the gall-bladder could be felt enlarged and slightly painful on firm pressure. The enlargement of the gall-bladder could be made to disappear in a measure, showing that there was not a permanent or complete obstruction of its duct. That no further mistakes be made in her case, I made a small anterior opening over the gall-bladder, and explored it and its duct for stones, but none were found. This incision was closed and the usual lumbar incision made and the movable kidney anchored with silk sutures to the fascia and muscles. Since the operation all her gall-bladder symptoms have disappeared, and her appetite, digestion, and assimilation have greatly improved, and she writes me that she feels better than she has for years. In her case the pedicle of the movable kidney produced a partial obstruction of the common and cystic ducts, hence the gall-bladder symptoms."

Hilbert⁷ found albumen in 14 per cent. of his cases, while I have not been able to find it in any of my cases.

To shortly recapitulate the symptoms of movable kidney, I would say that the pains in the back seem to occur most regularly, and they generally are of a changing character, from dull to sharp. In different patients they are differently affected by the various positions.

The next symptom most frequently found is dizziness. Then come the symptoms due to enteroptosis and the gastric symptoms. Then

the symptoms of the circulatory system, consisting of palpitation, sometimes irregular heart action, distention of the abdominal aorta, throbbing of this vessel, kinking of the renal artery, occasionally a bruit in this place. In rare cases compression of the cava inferior, œdema of the lower extremities, and even thrombosis of the cava inferior has been observed. Then the symptoms from the nervous system, neurasthenia, trembling, dizziness; headaches, occipital or frontal, and deep depression. In some cases albuminuria or intermittent hydronephrosis, which can be differentiated from other kinds of hydronephrosis only by its intermittent character.

A great many of the symptoms of movable kidney are no doubt caused by pressure on the solar plexus.

Diagnosis.—While such symptoms as those we have mentioned very often strongly indicate the presence of a movable kidney, none of them is absolutely reliable. We have to find a more or less movable tumor somewhere in the abdomen, which has the size, shape, and consistency of a kidney. We should try to feel the hilus, and, if possible, the pulsation of the renal artery, which, however, can but rarely be felt. This examination is best made by relaxing the abdominal coverings of the patient by flexing the thighs and raising the upper portion of the body, standing on the right side of the patient if we examine the right kidney, we put the left hand in the right lumbar region, pressing upward, while the right hand carefully palpates the abdomen and only gradually goes down deeper. If in this way we find a tumor which seems to be the kidney we ought to put our patient into the knee-elbow position and try to percuss both kidneys in order to ascertain the absence of one of them.

It may become necessary to differentiate between a floating kidney and a gall-bladder tumor, or a pendulous, detached part of the right lobe of the liver, an echinococcus of the liver, a cancer of the ascending or descending colon, a tumor of the womb and ovary, a movable spleen, and a carcinoma of the pylorus, etc. It is not my intention to enter more deeply upon the subject of differential diagnosis, as this is too great a field for the time at my command. I would, however, like to mention the movable spleen which, on account of its superficial position, gives flat dulness on percussion, can be palpated as a firm body, with rather sharp edges, and does not disappear beneath the intestines when being moved upward. Dulness in normal location of spleen missing. The movable left kidney cannot be palpated as plainly as the spleen, is felt as a more round body, on account of being covered with intestines it

gives a dull, tympanitic or a tympanitic percussion-note and, on being made to slip upward, it disappears under the intestines.

In considering the presence of a carcinoma of the ascending or descending colon, besides giving attention to all the points mentioned in reference to diagnosis of movable kidney, frequent variation in size of the tumor, as caused by filling up and collapse of the colon, would be of importance. Solid tumors of the gall-bladder can sometimes only be differentiated from movable kidney by the further course of the disease.

In conclusion, I would say that the frequency with which movable kidney occurs, warrants the dictum that its recognition should not be confined to the diagnostician of obscure disease, but the common practitioner, however limited his sphere, should be always in position to recognize this condition.

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SYMPTOMS AND DIAGNOSIS OF MOVABLE KIDNEY.*

BY H. B. STEHMAN, M.D., CHICAGO.

In considering the symptomatology of movable kidney, we find in a certain percentage of cases that compensation is so effective and reflex disturbance so slight that no symptoms appear. The kidney may be displaced to a degree that the whole organ can be recognized by palpation below the costal arch and yet the patient be entirely free from any distress. Or the organ may attain to a sufficient size as to be easily felt by the patient and still it may cause no inconvenience, much less pain or distress. The symptoms, however, which are most generally associated with this condition are pain, gastric distress and nervousness; and the order in which they are stated is the relative frequency in which they occur. In a large majority of cases these symptoms are associated with impairment of the general health; the patient is ill-nourished; anæmic; has loss of appetite; feeble digestion; functional, gastric, and cardiac disturbances; nausea and vomiting; is extremely emotional, becoming even at times hysterical or melancholic. In some of these cases we find that a primary disturbing, or deep-seated constitutional affection which has interfered with assimilation and nutrition, bringing with it that train of symptoms which are associated with anæmia, and also the lesions which follow great distention of the abdominal wall in consequence of frequent pregnancies, mask the condition of the kidney we are at present considering. But in that class of patients who are afflicted with movable kidney in consequence of some traumatic cause—cases in which the perinephritic fat has not become absorbed through any constitutional disease, or in which the peritonæal support has not been withdrawn in consequence of a distended abdominal wall, the affection is more easily recognized. Here, the primary affection is the displaced kidney; it stands out alone and is not masked by lesions of neighboring organs. It is in these cases that replacement not infrequently relieves the pain and nephrorrhaphy effects an entire cure. In the course of this affection, pain may be slight or severe, continuous or intermittent, colicky or dull, heavy and dragging; it may be felt over the displaced kidney or along the urinary tract or any portion of the abdomen, more particularly near the median line; above the umbilicus

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and in the lumbar or sacral regions. It may be increased or relieved by pressure, aggravated by change of posture, upon standing or walking or lying in the lateral recumbent position. It is slight in those cases where there is considerable freedom of mobility of the kidney owing to the loss of the perinephritic fat and of peritonæal support, with a general relaxation or downward displacement of the abdominal viscera. It is severe in that class of patients in whom the dislocation has been produced, not by any disturbance of the nephritic bed owing to the absorption of the enveloping fat or relaxation of the abdominal wall but by a sudden and violent displacement of the organ by force. In these cases there follows dilatation of the pelvis of the kidney with partial interruption of the discharge of the urine, as the cause of the continuous and frequently severe pain. In consequence of too great accumulation, periodic discharges of urine occur, distention of the kidney is relieved, and thus the pain becomes intermittent.

It is colicky owing to the supposed torsion of the ureter, in which its lumen may be entirely occluded, with overdilatation of the kidney pelvis.

The pain becomes dragging in consequence of its tension upon the abdominal viscera. It is sickening in character when the kidney is felt as a body slipping from one side of the abdominal cavity to another.

Pain may be produced by the accumulation of impacted fæcal matter in the intestines, large or small, or it may be due to functional disturbances of other viscera of the abdomen owing to mechanical pressure by the displaced kidney. As previously stated, this affection is not infrequently associated with peculiar gastric disturbances; especially those which accompany gastric dilatation, such as epigastric pain and distress, foul-smelling eructations and vomiting of undigested food.

These symptoms, however, must not be confounded with nausea, vomiting, and other uremic and pyæmic manifestations which sometimes follow hydro- and pyonephrosis.

Jaundice may also be present; it is due to pressure either upon the duodenum or upon the gall-bladder.

Œdema of the lower extremities, from pressure by the wandering kidney upon the vena cava, has also been noticed.

Lesions of the pelvic viscera, more especially of the genital organs in the female, are found in connection with movable kidney; the one may obscure the other.

Moreover, the symptoms are intensified during menstruation and the early stages of pregnancy; while during the latter months of gestation and with coexisting intra-abdominal growths, they are absent.

(Edebohls.) Anteversion of the uterus may be produced by the pressure of the dislocated kidney upon its posterior surface, or retroversion may result from pressure of the same organ upon its anterior surface. Schultze recites a case in which it was impossible to keep a retroverted uterus in position owing to the persistency with which the dislocated kidney descended into the pelvis.

Hydronephrosis may result from an elongated mesonephron that has become twisted, producing constitutional disturbances which may cause abortion; or the wandering organ may, on account of pressure from the gravid uterus, become so congested as to arrest pregnancy; while, on the other hand, the organ itself (Hirst) by its presence at or near the inlet of the pelvis, may become a prominent factor in preventing the presenting foetal part from engaging in the superior strait of the birth canal.

In the diagnosis of movable kidney we rely to a great degree upon palpation and percussion. Palpation can only be successful in the great majority of cases where displacement is not very marked by placing the patient in a position to insure the greatest relaxation of the abdominal muscles. Various postures are employed; the patient is requested to sit or stand erect, to sit or stand inclined, supporting the body upon some object in front, or is placed in the dorsal or latero-dorsal position. It is a fundamental principle, in making examinations where general relaxation is required, in order to eliminate the element of muscular resistance and secure the patient's fullest consent that the person examined be at ease and, therefore, it seems to me that placing a patient in the recumbent position, with the shoulders slightly raised and limbs drawn up or lying upon the side opposite to the affected kidney, with the limbs flexed, insures less reflex action of the abdominal muscles, which is always an embarrassing feature to the examiner, than any other method. Moreover, if after having used the recumbent or lateral position, the sitting posture is tried, one is able frequently to reduce or dislodge the vagrant organ at will. Deep inspiration, coughing, or change of position will aid in bringing the organ into the field of palpation. In palpation, the patient being in the recumbent position, the left hand of the examiner is placed over the lumbar region and the right hand at a point opposite on the abdomen, and by slow, gentle, and deep pressure one may be able to insinuate the latter hand into the abdominal wall to a degree that deep structures may frequently be readily recognized. In this procedure, the anterior hand should be kept immobile so as not to stimulate muscular contraction and at the same time one should render the tactile sense as acute as possible; then, by press-

ing the posterior hand forward, one is not only able to distinctly recognize the lower edge of the kidney in partial dislocation, but by pressing both hands together, cause it to glide back into position, or if it has escaped beyond the costal arch, by careful pressure to fully outline the shape of the entire kidney.

Moreover, by this means, the pulsation of the renal artery may at times be recognized—a most important fact in differentiation—and a movable kidney may be distinguished from other displaced organs or from malignant growths of the abdominal cavity.

In percussion, we have a most valuable aid in diagnosis; for example, the percussion-note over the lumbar region in displaced kidney is frequently more tympanitic and the resistance over the same area is lessened, and with these conditions there exists in this region a depression which is effaced when the organ is replaced. Theoretically this ought always to be true, but this sign, as a fixed diagnostic point, owing to modifying circumstances, cannot always be demonstrated and, therefore, is of substantial value only after one is assured by other methods of examination that the kidney is not in the normal place. Percussion again, is of great value in determining whether an organ that is recognized by an abdominal palpation is intra-abdominal or post-peritoneal. Thus, for example, to differentiate between the kidney and the spleen, or the kidney and the liver, or any other body within the abdomen that possesses a certain degree of solidity. The use of percussion may also be most helpful in those cases where examinations by palpation is difficult in consequence of the depth of the thorax, the thickness of the trunk, and the accumulation of fat in the abdominal walls. This is especially so if the kidney is but slightly movable; but, as stated above, it becomes of value only as being additional evidence added to facts that have been previously settled through a process of exclusion.

While the field of ordinary percussion is rather proscribed, the range of its application, when combined with inflation of the bowel, is greatly widened. Thus, by inflating the intestines with air, the pitch of the percussion note becomes so changed over various portions of the abdomen that, by comparison, we are able to differentiate organs with a degree of certainty that is most gratifying.

Valuable information from a diagnostic standpoint is gained by examination of the urine. A quantitative as well as qualitative analysis may throw much light upon an obscure point, but if the study include the catheterization of the ureter or the use of the Harris segregator, one

is frequently able to demonstrate beyond all possibility of doubt, the true nature of the lesion.

The presence of well recognized etiological factors such as wasting of the body, the history of accidents or blows, secondary changes of the kidney, as recognized by the urine; pendulous abdomen resulting from repeated pregnancies, are significant in the presence of symptoms which point to a movable kidney. Moreover, the functional disturbance of certain abdominal organs without assignable cause, with the presence of symptoms simulating disease of such organs, would also suggest nephritic disturbance of the character we are considering. In this connection, Grant has called attention to the fact that the character of the symptoms in this lesion is determined by the degree of irritation; that is, a minor degree of irritation simply stimulates reflex centers, whereas a major degree paralyzes them. This coincides with the idea expressed by Kidd, who maintains that owing to the proximity of certain of the nerve centers of abdominal organs, the disturbance results rather from irritation than from direct pressure. For example, in reporting a number of cases of intestinal obstruction due to displacement of the kidney, he suggests that while a slight amount of pressure may diminish the lumen of the bowel and lessen peristalsis to a degree to favor fæcal accumulation, nevertheless the intimate relation of the nerve-supply of the colon, kidney, and suprarenal body is such that a derangement of one of these organs would not unlikely produce functional disturbance of the other. Reflex symptoms are not only significant but their order of development is quite suggestive. The frequency with which displacement occurs also entitles it to consideration in differentiating between abdominal tumors. Age is likewise suggestive; Landau states that displaced kidney is most common between the ages of 25 and 45. Also sex; for in 474 cases, 85 per cent. were in women. Likewise the side affected; for we are aware that the right kidney is the one most frequently affected and Schultze tells us that in 83 patients examined by him, the right kidney was displaced in 65 and the left in 18 cases, and in 14 the displacement occurred on both sides. If the lesion occurs in men, the displacement is generally unaccompanied by any affection of the abdominal organs or weakening of the abdominal wall, and the history points to trauma as the possible cause. This sudden onset is quite sufficient. The movable kidney which is associated with enteroptosis is generally the one that comes on slowly and gradually. (Tuffier.) In the former case the pain is the leading symptom and is the one in which relief is gained by upward pressure and consequently

greatly benefited by nephrorrhaphy, whereas in the latter, the affection frequently exists without producing any symptoms.

In intermittent hydronephrosis, in addition to the increase in the size of the kidney, the history of the accumulation of urine, followed by discharge and ease from pain, is quite characteristic.

The following lesions may at times be confounded with a movable kidney: a solid ovarian tumor which occupies the median line, a displaced spleen or liver, the gall-bladder, an echinococcus cyst of the liver with a pedicle, the accumulation of feces in the flexure of the colon, carcinoma, and sarcoma of the abdominal organs and omentum, not excluding the kidney itself; perinephritic abscess, growths in the abdominal wall, and appendicitis.

In considering the subject of differentiation there are several anatomic and pathologic facts which, if kept in mind, will help one materially.

1. The post-peritonæal position of the kidney as compared with the liver, spleen, gall-bladder, various cysts and growths within the abdominal cavity, which can be easily demonstrated by combining percussion with inflation of the bowel.

2. The reniform shape of the kidney in comparison with the characteristic shape and feel of the spleen, liver, gall-bladder, etc.

3. The immobility of the displaced kidney during inspiration and expiration as compared with the descent and ascent of the spleen and liver, and growths connected with them during respiration.

4. The pulsation of the renal artery, which, if felt at all, will always be recognized as part of the pedicle, for it must be remembered that the range of motion of the kidney is determined by the vessels, nerves, and ureter.

5. The ease with which the organ can frequently be moved from place to place, and restored to its normal position in comparison with organs or growths whose positions are fixed.

6. Tenderness on pressure and the sickening sensation which is produced by compressing the organ between the two hands.

In ovarian cyst the development of the tumor and recognition of its origin may be determined by vaginal examination; in echinococcus cyst—that is, pedunculated—differentiation may be quite difficult unless a hydatid fremitus can be felt; otherwise, recourse can be had to aspiration. In fecal impaction, copious enemata with the liberal exhibition of cathartics will rarely fail to clear up the diagnosis; and if the coprostatic mass envelope the kidney, by dislodging the same, the bean-like form of the organ will stand out in plain relief.

It should constantly be borne in mind that excluding the symptom of pain, the movable kidney has little in common with ordinary inflammation, and thus, in the presence of the characteristic symptoms of appendicitis or the œdema, redness, tenderness upon pressure, with probable fluctuation of a perinephritic abscess, we should hardly fall into the error of confounding either of the two with displacement of the kidney.

THE SURGICAL TREATMENT OF MOVABLE KIDNEY.*

BY L. L. McARTHUR, M.D., CHICAGO.

Admitting that not every case of movable or floating kidney requires operation, and after due consideration having concluded that the case in question requires surgical interference, basing such a conclusion upon the (1) facts that all palliative treatment has failed, (2) that the sufferings of the patient are having a progressively injurious influence on his (or her) physical or psychical being, and (3) that the temporary reposition of the organ affords at least partial relief, the question to be decided remains as to what surgical procedure is to be selected.

Excluding also from consideration those cases of diseased kidneys—whether due to the mobility or not—such as hydronephrosis, pyonephrosis, etc., requiring nephrectomy, there remains the selection of some one of the numerous methods of fixation first suggested and practised by Hahn and modified or improved since by numerous followers, and by each of which some successes are reported. It is not my conception of the aim of this meeting that I should repeat to you what each may better find in detail in libraries, annuals, and encyclopedias, hence I shall refrain from describing minutely any of the customary procedures for suturing the kidney in place, preferring to emphasize the objects to be striven for and the obstacles to be overcome.

In health the kidney is held in place by living tissues, hence efforts to maintain the same with buried non-absorbable bodies have, after a time, failed and been abandoned either because of (1) irritation, (2) suppuration, (3) stretching of the tissues included in the suture. Buried silver wire, silk, silkworm gut, have, either from the pain produced by their presence or suppuration evoked sooner or later by an auto-infection, ultimately to be removed, or the cutting out by pressure-

* Read before the Chicago Gynæcological Society, December 16, 1898.

atrophy of the tissues inclosed in the buried loop thus permitting the kidney again to become movable, has driven the surgeon to first the absorbable variety and then, as a natural sequence, to living tissues. Not without, however, so many failures that no small number of surgeons have concluded—hastily and unjustly, I believe—operative measures to be inefficient, useless and dangerous. Because of the irritation and pain produced by the presence of silkworm-gut sutures, I have myself been compelled to reopen and remove them three months later. Because of auto-infection, I have, just as in former hernia operations, had six months or a year later to remove a suppurating silk suture. The cutting out by pressure atrophy of the tissues included in a loop of silk whether passing over a fixed object like the rib; permanently, as recommended by Guyon (or temporarily, as by Jonnesco) might logically be expected, and the method is to be condemned on the further ground of danger, fatal pleural empyema having been reported.

Experience then teaching that simple buried stitches of non-absorbable matter were inefficient for the above-mentioned reasons, and the substitution of absorbable suture not giving as large a percentage of successes, search was made for the cause of the failures and found in the absence of living fibrous cicatricial tissue made when simply using sutures alone. Imagine the kidney sutured in place with aseptic absorbable suture by six, eight or ten sutures. The amount of fibrous tissue formed in the channels formerly occupied by them is really slight and, like this variety of cicatricial tissue elsewhere, slowly stretches and permits again motion. The mere fact that deep sutures into the kidney substance can be made, not prove any more efficacious in the production of tissues which shall later hold kidney in place and, theoretically at least, it is injurious and undesirable.

In the effort to produce such cicatricial tissue, Bassini, in addition to introducing sutures of catgut, painted the posterior aspect of the fibrous capsule of the kidney with zinc chlor., 8 per cent., and Albarran with 95 per cent. carbol, or 4 per cent. Arg. nit., Koenig packing gauze to the exposed surface with the idea of developing a large mass of cicatricial tissue from the posterior aspect of the kidney to the skin, succeeded in curing many cases but kept his patients from six to twelve weeks in bed with a discharging wound. This, notwithstanding Tuffier's claims that the fibrous capsule could not proliferate.

McBurney's efforts to cure hernia by this same open method taught us the futility of relying upon cicatricial tissue; and failures by all the methods enumerated led to the next step toward the ideal, that of substituting living, healthy fibrous tissue for that of cicatricial tissue, and

induced Poulet to suture the kidney to the lumbar wall by means of tendons taken from the long dorsal muscles, detached at one end, sutured through the kidney, then fixed in the wall of the wound. On animals fourteen months later, kidney was found still in place and tendons bright and shiny. Veulliet likewise did the same. Krieger recommended use of bundle of muscular tissue from erector spinæ. The idea being in all the same, that of fixing by normal *living structures*.

The evolution of this idea still progressing led Péan to suture after the usual perpendicular incision the posterior flap of the inner layer of lumbar fascia to the loosened fatty capsule of the kidney, creating thus a band or bridle of tissue over which the pedicle of the kidney might ride. I believe I can here mark the next step in advance toward the ideal, by a procedure by the use of which all perforating sutures of the kidney parenchyma may be abandoned while supplying a fair substitute for the folds of peritonæum and transversalis fascia which normally hold in place the kidney. It has seemed satisfactorily accomplished in this manner.

1. A curved transverse incision below the last rib is made through all the structures at once down to the peritonæum anteriorly.

2. The peritonæum is then loosened from lateral parietal walls by blunt dissection sufficiently to permit our boldly enlarging the posterior angle of the wound without fear of injury to important structures quite back of the quadratus.

3. Fatty capsule of kidney loosened by blunt dissection.

4. The anterior layer of lumbar fascia and transversalis aponeurosis is then loosened from the tissues on which it lies to such an extent as will admit the kidney in the pocket thus made. The lower flap of wound having a compartment for the lower half of the kidney.

5. Prior to inserting the kidney in the new compartment, the cut edges of the transversalis aponeurosis have inserted in them two or three stitches, which serve to pucker the pocket containing kidney.

6. The kidney having been dislocated first upward, its lower end is slid into the pocket.

7. Closure now of the stitches in the aponeurosis of the transversalis fixes the lower half of the kidney external to one of the layers of the abdominal parietics supporting the same by so broad a surface that no injury to kidney can result and no displacement occur, and employing a normal tissue not transplanted. I have found it sufficient to make the pocket for the lower half of the kidney and would suggest its use in the movable cases; where a very complete arresting of its wanderings can be secured. Two or three stitches can be made to hold the kidney

until adhesions form. By this arrangement, too, the movements of the other abdominal organs cannot dislodge the kidney in question, it being external to one of the layers of the abdominal wall and pressure from above tending to drive it deeper into the pocket thus formed.

Since we only recommend operation in those cases in which palliative treatment, internal medication, and orthopædic appliances have failed, and since we can by any of the various methods proposed effect a cure in most of these otherwise hopeless cases, I believe we are justified in recommending operation, remembering always that progress so far has been greatest along those lines which seek to interpose living normal substitutes for the relaxed ligaments of the kidney, instead of sutures.

NOTE.—Since reading the above, my attention has been called by Dr. M. L. Harris to the experimental studies of Dr. Aug. Schachner, reported in the *Annals of Surgery* of 1892, vol. xv, in which the effect in the kidneys of their introduction into similar lumbar pockets is fully described, and to whom priority for this idea is due, though not tried in human subject.

EMPHYEMA COMPLICATING THE PUEPERIUM.*

BY D. C. MORIARTA, M.D.,

Senior Surgeon, Saratoga Hospital.

In presenting this case of empyema to you, I am conscious of not being able to give you a perfect clinical report. Yet I give it to you from my notes as then recorded. I regret not having made a complete examination of the fluid from the cavities, and also that I was unable to explore the left chest. However, the condition is such an unusual one to complicate the puerperium that, even with its defects, I believe the case may well be reported.

M. L., aged 24, white, American, married primipara, having always been well, never having had a physician, or occasion for one, until her present pregnancy, which was uneventful. (I examined her urine each month during her pregnancy it was always normal.) She was of an extremely nervous temperament. Family history is negative, father

* Read before the Northern Branch of the New York State Medical Association, June, 1898.

and mother both well and strong, several brothers and sisters alive and well, none having died. No tuberculosis with aunts or uncles.

I made my first visit November 6th, at 12 M. She delivered herself the same day, two hours later, having an easier time than the average woman, with very slight laceration of the perinæum. There had been some scattering pains since early morning. She had a natural time for the first four days and on my fourth visit I was dismissed, the patient saying she was all right. Her bowels moved on the second day, and the lochia were thought to be normal; the breasts and nipples were all right. The child was placed to the breast promptly and regularly.

The following day I was summoned and found her breasts very hard, swollen, and painful, nipples normal. With the use of the breast pump, massage and Murphy jacket, they gradually improved and were less swollen and painful during the next two days. You will see by the chart that the temperature was very high at the time, reaching 106° F. on the evenings of the fifth and seventh days; had it not been for the thermometer we should not have mistrusted such a high temperature, as her general manifestations were about as usual. From this time on the temperature fluctuated, but gradually approached normal, though it several times reached 104°. From the ninth day the breasts improved rapidly, became soft and free from pains, though the secretion of milk was less. After the twelfth day there was no milk.

On the eighth day (you will observe by the chart that this was at the highest temperature) there was a well-marked pain just under the free border of the ribs on the right side. It would radiate upwards to the level of the nipples in the axillary line and was deeply pleuritic. The pain continued for three days; though the respiration was hurried and painful there was no cough yet a distinct friction sound.

The day of the initial pain in the right side, namely, the eighth day the bowels became markedly tympanitic although not at all painful at any time, except at the free border of the ribs, as mentioned. I was anxious concerning a possible condition of sepsis from the uterus, or from the very slight perinæal laceration; but as there was no foetid discharge, the cervix was hard, the uterus contracted well down, and no tenderness of the uterus or adjoining tissues, I felt safe in excluding sepsis as a cause of the extreme tympanites.

On the thirteenth day of the disease I made out, for the first time (though I had regularly examined the chest) dullness on the right side as high as an inch above the nipples and correspondingly behind.

The vocal fremitus was perceptible and broncho-vesicular breathing was made out though it was more distant than normal. The breathing

was quickened to 30 per minute but was not more painful. The dullness increased, though the chest sounds did not change from above, nor were there any moist râles. I did not think there was fluid in the chest, or at least very much, as the chest-sounds were discernible though somewhat distant, as detailed. I diagnosed a probably thickened pleura.

The dullness, as well as the other symptoms, were growing more pronounced, the respiration very rapid, from 30 to 60 a minute, since the tenth or eleventh day of the disease and continued thus until the seventeenth day of the disease. I asked Dr. Hodgman to see the patient; he agreed that there was no pelvic sepsis but did not hesitate to diagnose the chest nearly full of water, notwithstanding the chest-sounds could still be heard. Accordingly we aspirated, punctured the chest three times but were unable to withdraw any fluid. During all this time there had never been a chill nor any sweating, nor had she minded the high temperature. The pain was now much less acute.

On the twentieth day of the disease, three days after the thoracentesis, she began to hack a little which was the first of any cough. On the 9th of December, the thirty-third day of the disease, I succeeded in obtaining some sputum for examination for the first time. I found quantities of tubercular bacilli; in fact, the specimen resembled a culture, they were so profuse. Notwithstanding this fact, from this time (the 9th of December) until January 2d, she improved steadily, though slowly and was able to be up. The appetite returned, the cough almost entirely ceased, she slept well, no sweating, the pain was entirely gone, the respirations became normal in number, the dullness receded perceptibly and since the 15th of December the temperature had been normal in the morning when I made my visits. She gradually lost flesh, however, and raised a little mucus which always showed the tubercular bacilli.

At that time, January 2d, I went away for ten days and at their request did not have any one to look after her; they thought she would not need any special attention while I was away. On my return, on the 11th of January, I found the patient's condition much changed, the temperature was up, pulse rapid, though the respirations were normal in number, there was an entire absence of all respiratory sounds on the right side, either anteriorly or posteriorly; the condition of the left side was exaggerated. There was no doubt now that the chest not only contained fluid but was tull. I accordingly explored with a fine needle and drew out a syringeful of pus. I had her removed to the hospital and, with the assistance of Drs. Ledlie, Humphrey, and Fallen, made an incision between the sixth and seventh ribs in the

axillary line and evacuated a large quantity of pus, perhaps a quart, in which there were several large fibrinous masses. I did not remove a portion of the ribs, as the patient's condition became critical while on the table and we were obliged to be contented with sewing in a drainage-tube. The patient reacted nicely, the lung expanded, wound continued to discharge, gradually growing less. She was able to be up and about the rooms in a few days, quite like herself.

Three weeks later she was attacked with acute pleurisy on the left side; for thirty-six hours the most positive friction-sound existed, later some effusion when the intense pain subsided. With this increased condition she went down very rapidly, the heart failing, respiration becoming more rapid, urgent, and painful. She was able to take only a moderate amount of nourishment by the stomach but retained nicely rectal alimentation, though she gradually grew weaker and succumbed to the condition on February 24th. I was prevented from exploring the left chest, so do not know whether the fluid was pus or serum. I regret this and also that I had not examined the fluid from the right side for tubercular bacilli at the time of the operation it was entirely overlooked, but the sputum showed the organism whenever examined.

A peculiar feature in the medicament was when I tried to have her take creosote, even in small doses (3 to 5 drops); it would give the urine the characteristic appearance of carbolic acid. I would have thought it was not a pure article, but the carbonate of guaiacol did the same.

This case, while a very anxious one to me, was very interesting. On the eighth day of the disease the temperature of 106° had to be differentiated from the extreme nervousness, mastitis, pleurisy, and pelvic sepsis. On the seventeenth day, a dry tap resulted in searching for the fluid in the chest, when all the signs seemed clear to the consultant; after two months the rapid development of an empyema, when the thoracic conditions seemed improved. I regret not having examined the contents of the chest for tubercular bacilli, as I have wondered if the empyema could have resulted from an infection when the chest was explored; we felt sure that there was not a pneumonia, so eliminating that as a cause of the empyema we used thorough aseptic precautions when exploring the chest with the needle. Other unusual day, the entire absence of chill or chilly feeling, and the drying up of the milk so abruptly. Authorities have very little to say of this condition complicating the puerperium.

"The American Text-Book of Obstetrics" says pleurisy is secondary to peritonitis or phlebitis but may be a primary lesion. The fluid is

seropurulent, except when due to an infected embolus, when it is purulent.

Lusk does not mention pleurisy or empyema in the puerperium, but says if it occurs in pregnancy it is an indication for terminating the condition. He further says that phthisis is not only hastened by pregnancy but precipitates its development. In this case, however, the patient was absolutely well until her confinement; so perhaps the condition was precipitated by an embolus. Other authorities at my command do not mention the complication at all.

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EDITORIAL.

SURGICAL "INTERFERENCE" AND "INTERVENTION".

Our esteemed contemporary, *The Richmond Journal of Practice*, has lately taken up in a serious manner the question of the propriety of using the term "interference" in its common application to surgical measures in the treatment of disease. The editorial to which we refer condemns the use of this word on the ground that though, in its etymology it is inoffensive, it has become by common acceptance rather a term implying the reproach at the best of officiousness and at the worst of unjustifiability. The author of the editorial maintains that it behooves the profession to give up a term of such dubious significance and it proposes the substitution of "intervention," which expresses equally well the same idea and is certainly free from suggestiveness. This is all true and, from the standpoint presented by the editorial, we agree with the proposition that "intervention" is an acceptable and proper substitute.

There is, however, another point of view from which to consider the question. We are inclined to think that the retention of the term "interference" as applied to surgical intervention is not altogether without its salutary effect upon surgeons themselves. There is much in a name. With the impunity in operating attained by the general acceptance and use of thorough asepsis "meddlesome surgery" became the crying evil of the hour; nor has this tendency, in practice, altogether

ceased to-day. There are still too many surgeons who believe practically that immunity from death or union by first intention is a complete justification for any operation which they attempt. This is not an exaggerated statement. How often the description of a "radical" operation is prefaced, by surgical writers with such phrases as the following: "Having treated the patient for pelvic peritonitis with adhesions for several weeks without marked benefit, I determined to remove the ovaries and uterus, etc."; or, "As the patient was unwilling to undergo a long course of treatment and was anxious to have an operation, I decided to perform an hysterectomy, etc."; or, "Upon examination I found both ovaries prolapsed, large and tender and the uterus retroverted; I performed vaginal section, removed both ovaries and the uterus. *The patient made a complete recovery!*"

Let us consider these reasons, as they stand, as indications for the radical operation. Does any man who knows his business expect to cure a long-standing pelvic inflammation by a few weeks' treatment? or by regular and constant treatment even of months? If any surgeon starts upon a case with such a preconceived idea, it would be honester in him to operate at once, for "operating" is the extent of his knowledge and attainments in gynæcology. It is no excuse for the radical operation that a patient, who is admittedly ignorant and comes to the gynæcologist for that advice which is best applicable to her case, in her eagerness and inexperience insists that the surgeon shall operate. A surgeon who cannot say *no* to a patient and stick to it is unworthy the confidence of any patient. Again, are large, tender and prolapsed ovaries, especially in conjunction with a prolapsed, retroverted uterus any evidence of organic disease of these organs? Is it not the daily experience of gynæcologists that, with the resolution of the pelvic inflammation and reposition of the uterus, the prolapsed ovaries will rise to their normal position on the broad ligament and, the hyperæmia disappearing with the restoration of normal circulation, they are restored to health and usefulness?

Until the true indications for any operation which removes or destroys any organ or other part of the body are absolutely accepted, in practice, by the entire profession—until this consensus of opinion declares that no radical operation is justifiable except as a last and exclusive resort for the restoration of health or the preservation of life, and this necessity be acknowledged as a confession of our *inability to cure*, we consider the word "interference" not altogether inapposite. Until the necessity for surgical intervention be accepted both by the profession and the laity *as a confession of our limitations in knowledge of*

therapeutics, which in reality it is, we think that the retention of the term "surgical interference" is not without its usefulness as a prick to indolent surgical consciences.

CORRESPONDENCE.

SALINE INFUSIONS.

NEW YORK, December 18, 1898.

To the Editor of the American Gynecological and Obstetrical Journal:

SIR: On my return from Europe, I find in your September issue Dr. H. T. Hanks' excellent article on saline infusions, hypodermatically administered, as a "proper preparation before an exhaustive operation."

It affords me great pleasure to have my practice confirmed by so eminent a surgeon as Dr. Hanks. For over five years I made it a rule to employ *systematic* saline infusions preparatory to exhaustive operations, as I endeavored to show in various articles. The last of these was on "Pylorectomy" in *The Clinical Recorder* for July, 1897.

Those who have the pleasure of knowing Dr. Hanks will appreciate that he would not wittingly assume a priority, if the articles I refer to had come to his knowledge.

37 East 31st St.

CARL BECK, M.D

FURTHER REPORT OF TWO CASES OF PARASITIC INVASION OF THE HUMAN MILK DUCTS.

CHICAGO, January 18, 1899.

To the Editor of the American Gynecological and Obstetrical Journal:

SIR: Since the publication of my paper in the January number of the AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL, I have met with two more cases of children suffering from this parasite, taken from their mother's breasts. Both children presented this condition of collapse described in the former article and both had a great acceleration of the symptoms characteristic of these cases when again put to their mother's breasts after a period of rest from nursing. Both seemed in

imminent danger of death and both recuperated rapidly after being given artificial food.

The food used was, and is, half rice water and half cow's milk with the addition of sufficient cream to supply the required amount of fat.

One child is four-months old and the other is six. Both had gradually lost flesh and both had suffered from flatulence, constipation and colicky pains.

Both children presented symptoms resembling tuberculosis and might readily have been considered as suffering from this disease.

In this respect they resemble a similar case in an adult. Here the patient presented the symptoms of acute milliary tuberculosis, but an examination of the sputa revealed the parasite under discussion and she promptly responded to appropriate treatment.

I report these cases as a supplement to my former paper, believing that numbers bring conviction and hoping, in view of my firm belief in four young lives spared, that other physicians may watch for these cases and that the death-rate in young children may be materially lowered—at least in Chicago.

306 Division St., Chicago.

E. D. SMITH, Ph.D., M.D.

COLPOCYSTOTOMY FOR THE CURE OF CYSTITIS.

PHILADELPHIA, January 23, 1899.

To the Editor of the American Gynecological and Obstetrical Journal:

SIR: In the January number of the JOURNAL, Dr. Ferguson in discussing the surgical treatment of cystitis mentions colpocystotomy as an obsolete operation for the cure of cystitis. In the discussion of his paper, Dr. Dudley states that in his hands, as well as in others, it has proved of value. I feel, as does Dr. Ferguson, that since the introduction of the Kelly cystoscope we are in a far better condition to deal with cystitis than ever before. I would by no means, however, take the position that colpocystotomy is obsolete. Cases are not common which necessitate a resort to operation, but I have met with quite a number in which, after the failure of other approved methods of treatment, by means of colpocystotomy it has been possible to bring about a cure. A most note-worthy case was one of very extensive, if not universal, ulceration of the bladder, the ulcerated surface being coated with urinary salts, and it being impossible with a cystoscope to find a particle of healthy bladder-wall. This patient was one of the most miserable

I have ever seen, and at the end of several years' treatment by various physicians, private and hospital, she was reduced to the unhappy state of being obliged to empty her bladder about ninety-six times in the twenty-four hours. She was much reduced from constant pain and sleeplessness. The conditions were such that an eminent surgeon had recommended excision of the bladder, this advice being based upon the supposition that the ulceration was tubercular in character. Colpocystotomy followed by irrigation of the bladder for over a year with boric acid and nitrate of silver solutions effected a perfect cure, after which the fistule was sewed up. Two years have now elapsed and the patient has been perfectly comfortable with the exception of a few weeks, when there was a slight relapse which yielded promptly to treatment. I am satisfied that no other method of treatment would have yielded equally good results. My experience with colpocystotomy has been so satisfactory that I would resort to it at any time for an intractable case of ulceration of the bladder.

CHARLES P. NOBLE, M.D

REVIEWS.

The Practice of Obstetrics: By American Authors. Edited by CHARLES JEWETT, M.D., Professor of Obstetrics in Long Island College Hospital, Brooklyn, N. Y. In one handsome octavo volume of 763 pages, with 441 engravings in colors and black, and 22 full-page colored plates. Lea Brothers & Co., Publishers, Philadelphia and New York.

The past year has been a most prolific one in medical publications, the earlier months seeming to be devoted to the production of gynecologies, with an occasional system of surgery, while the latter part has fairly teemed with treatises on obstetrics. For a number of years only two works on obstetrics were commonly used in this country, Playfair and Lusk, while now there are so many good text-books on this subject that it is most difficult to decide which one to advise. While the possibilities of the science and practice of obstetrics would seem necessarily to be more limited than those of gynecology and surgery, yet the rapid advances made in these closely allied branches have very

materially affected the practice of obstetrics, thus calling for more frequent revisions of the old, together with the incorporation of the later bacteriological investigations, anatomical dissections and improvements in technique, which have done so much towards perfecting this most important branch in late years.

Dr. Jewett, the editor of this, the latest work, has for years been recognized as a keen and scientific observer, an accurate, forcible and concise writer as well as a most successful teacher of obstetrics. He was one of the first to recognize the importance of *practical* instruction in obstetrics in medical colleges and to introduce it into the curriculum and, therefore, stands out very conspicuously among those comparatively few earnest workers by whose efforts the science and art of obstetrics has largely been raised from *sepsis*, *superstition* and *medicines*.

The contributors, of whom there are nineteen (19), are obstetric teachers in leading medical colleges, "or others equally expert in the cognate lines on which they have written." It aims to be a clear and practical treatise, suited to the needs of medical classes, and also to furnish in moderate compass a concise and comprehensive guide for the practitioner. Besides meeting fully these modest claims for its usefulness, it is easily one of the most scientific and thoroughly "up-to-date" expositions of the subject that has yet appeared.

Part I. is devoted to the anatomy. It is well written and profusely illustrated, many being beautifully colored plates, together with a number of new dissections which are

Part II. Physiology of Pregnancy—with chapter on Menstruation, Maternal Changes, Diagnosis of Pregnancy, etc., all carefully written and freely illustrated.

Part V., contains a chapter on "Pathology of Fœtus," which is unusually full and will be particularly interesting to students of Teratology, while the following chapter on "Diseases of the Fœtus," although of greater practical importance is not so complete; for instance, fœtal syphilis would seem to be of enough importance and frequency to warrant a more detailed description and suggestions as to treatment—also signs of fœtal syphilis for diagnostic purposes: as, "Wegner's Sign," yellow line between epiphysis and diaphysis of long bones; (2) marked increase in weight of liver; (3) increased weight of spleen; chronic lead-poisoning, diabetes—all important in establishing the diagnosis of the cause of repeated still-births. That all points which tend to aid diagnosis in these cases is of importance is shown in the following chapter on "Abortion and Premature Labor"; under "Treatment—

Prophylactic." "In order to succeed in the preventative treatment a very thorough investigation must be made of each case with a view of ascertaining the cause." The chapter is strongly written and very valuable, as the clinical pictures are clearly drawn and the treatment concisely and carefully laid down. It *apparently* settles most decisively that much-discussed point whether in cases of sepsis the curette should be used by declaring that, by the observation of Bumm himself, the so-called "*granulation zone*" or Nature's protective wall (which it is claimed should not be broken down by the curette) only existed in the *milder* cases of sepsis or "putrid intoxication," while in the *severer* form no such protective zone was seen, but the micro-organisms were found penetrating the whole thickness of the uterine wall and on the peritonæum. He concludes by saying: "If Bumm's observations were to guide us in our clinical work, we would refrain from curetting the *mild* cases of sepsis while in the severe form they would constitute no counter indication for we could not destroy that which did not exist."

This would seem to be conclusive at first thought but, upon further reading of Bumm's report together with corroborative evidence by Williams in Part VII., chapter 27, on "Puerperal Fever," its force is somewhat broken.

From Williams' investigations it would seem that there is such a "granulation zone" in all cases, and it does keep out many organisms, but in the most virulent cases the streptococci manage to get through in spite of it and set up a peritonitis. He admits that this "zone" is thinner in these cases of mixed infection than in cases of "Putrid Intoxication." With this slight exception there is practically no conflict of opinion, the real difficulty seeming to lie in the fact that one advises a routine treatment based on a *clinical* diagnosis, while the other contends that the *bacteriological* findings largely govern the prognosis and that the condition is only slightly affected, if at all, by any form of local treatment as yet discovered. This carries us into Part VII.—The Pathology of the Puerperium—which contains the chapter already referred to on "Puerperal Infection". This is probably the most original and striking portion of the work, presenting as it does the results of much original work and research. It is distressing, to say the least, to find out that after all the *bichloride*, upon which we have so long pinned our faith, instead of boldly following to their lair and routing the deadly streptococci, could only penetrate into tissue $\frac{1}{10}$ mm. after half an hours' contact with 1 to 1000 solution, while our nimble and elusive foe can travel through tissues at the rate of 2 cm. or more in six (6) hours.

The reports from the anti-streptococcus serum are as equally dis-

couraging, but the hope is held out to us that by producing an artificial leucocytosis by the employment of *nuclein* we may yet baffle the streptococcus.

Part VIII., with which the book concludes, is devoted to obstetrical surgery—the immediate repair of vaginal lacerations, applications of forceps, version, embryotom, Cæsarean section and symphysiotomy. The indications for the operations are clearly stated and the most modern and approved technique given in minute detail, fully supplemented with cuts where necessary. The typography and binding are good, the index complete, making in all an attractive and most valuable addition to one's library.

E. P. M.

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL SOCIETY.

Stated Meeting, December 1, 1898.

The *President*, CHARLES P. NOBLE, M.D., in the Chair.*Report of the Removal of a Large Adherent Ovarian Cyst from a Young Girl.*

Dr. J. M. BALDY: The patient, a little girl of 10½ years, was sent me from Coatesville, by Drs. Swing and Joison, with the following history. Two years ago she had been seen with what appeared to her doctor to be ascitic fluid in her abdominal cavity; at that time a diagnosis was made of free ascitic fluid due to a liver disease. She was under observation by her physician for only two weeks; the parents looking on the case as hopeless and being very poor did not have further medical attendance. The child was allowed to go for two years before the physician was again called, when he immediately sent her to me for operation. She was then absolutely enormous, we estimated that the cyst weighed 50 to 60 pounds; it was all cyst—very little child. She was extremely emaciated and there was apparently little or no soft tissue on her bones. The child had been confined to bed for some little time before she was brought to Philadelphia. I told the parents that I could promise nothing; that the only chance for the child was to have an operation and take what chance there was. I would do the best I could for her. It looked to me like an absolutely hopeless case. She was placed on the operating-table and the usual median incision made, sufficiently large to find at once that I had an adherent case to deal with. I enlarged the incision very quickly to far above the umbilicus, passed my hands in between the cyst and the abdominal wall and began to tear the adhesions as rapidly as possible. After having freed the cyst for four or five inches in every direction I plunged a trocar into it and found to my disgust that it was a multilocular cyst. The first cyst the trocar entered contained thin fluid, but the subsequent one contained very thick fluid, which would not run. Things began to look hopeless for the child. The incision was, however, enlarged, as much as possible of the anterior wall was freed and then my hand was plunged into the mass of cysts regardless of what became of the contents, simply hoping

to finish the removal, and quickly at that. During the enucleation the etherizer notified me that the pulse had ceased at the wrist and within a few moments the patient was apparently dead. I suspect the reason for this was that the etherizer had become startled and ceased administering ether and the flagging of the pulse was due to this cause in great part. However that may be, the child was to all appearance dead. I proceeded with enucleation simply with the idea of getting rid of cyst before the child was sent out of the room. The operation was finished as rapidly as possible. Fortunately there was not a single adhesion of the intestines. Adhesion was confined entirely to the cyst and abdominal wall and this was practically the salvation of the child. Enucleation was finished and the pedicle which was comparatively small was ligated. There was no attempt to clean the abdomen beyond scooping out the free fluid with both hands and sponges. The abdomen was closed ligated. There was no attempt to clean the abdomen beyond scooping out the free fluid with both hands and sponges. The abdomen was closed very quickly. Meanwhile hypodermics of strychnia had been administered and transfusion of normal salt solution was resorted to. After being put into bed a quart of salt solution was thrown into the loose tissue under the breasts. During the finishing of the operation the patient began to moan and while the stitches were being put in through the incision she was evidently feeling the manipulation very considerably. She was put to bed and, strange to say, pulled out of the condition of shock. Within twelve hours I thought the child had a fair fighting chance and in forty-eight hours she was practically convalescent. Her bowels opened at the end of forty-eight hours with a very small amount of purgation and she made a very good and rapid recovery. It has been remarkable to see how she has put on flesh. She has an enormous appetite. Rarely could you go near her that she is not eating something. She takes between five and six glasses of milk between meals. You can almost see what she eats going onto her bones. She has rounded out wonderfully.

This is altogether the largest cyst that I have ever seen in a young person. It is the largest cyst I have ever removed in any patient, child or adult. I never saw a patient on the table as nearly dead.

The left tube and ovary and the uterus were healthy and were not disturbed. The lining membrane of the cyst itself was apparently papillomatous. Dr. Williams has a specimen and some day will tell us whether or not it is real papilloma. There was no infiltration through the outer wall into the peritoneal cavity. Treatment after the transfusion was practically that of all abdominal section, simply rest

in bed and bowels moved in forty-eight hours. She had stimulant and nourishment thrown into the bowels within a few hours after being sent to bed. It was remarkable to see a patient nearly practically dead on the table make such a prompt recovery as she did, one whom you would imagine to look at had no vitality at all. I had no hope when I put patient on the table that she had a chance at all for her life. The manipulation and the pain incident to suturing seemed to have revived the patient rather than to have shocked her and to have used up what vitality she had left; it seemed to rouse her out of the state into which she had gone from etherization.

Prolonged Retention of a Dead Embryo in the Uterus.

BY LUTHER C. PETER, M.D.

(See page 138.)

Official Transactions.

FRANK W. TALLEY, *Secretary.*

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL
SOCIETY.

Stated Meeting, December 16, 1898.

The *President*, NICHOLAS SENN, M.D., in the Chair.

Carcinoma of the Fundus of the Uterus.

Dr. HENRY BANGA: The patient from whom this specimen was removed gave a history to this effect, that early in January she began to have irregular bloody discharges from the vagina. She was single, forty-five years old, and she first thought that she was passing through "change of life." By-and-bye the loss of blood became more annoying to her, she felt the effects of it upon her general health, and this induced her to call. When I examined her I could not make out anything by bimanual examination, to explain the bleeding. There was no enlargement of the uterus; I could not find any nodules; the uterus was soft, and the os to all appearances was in a normal condition. There was no fœtor. I told the patient that I would have to chloroform her for the purpose of making a digital exploration of the uterine cavity. This I tried to do, but did not succeed for two reasons. In the first place, she was a nullipara; the cervical canal being very narrow, I had to use one of the smallest tents, so that my finger could not enter the inner os at all. On account of being a nullipara, the abdominal parts were also so rigid that I could not grasp the fundus, which is necessary in case one wants to insert the finger into the uterus in order to avoid possible tearing. I, therefore, thought I would curette the uterus, and then have the scrapings examined. The report of the pathologist was that the scrapings showed glandular hypertrophy of the mucous membrane, with no sign of malignancy about it. After the curettage the patient was comparatively well for about two months, when she began to bleed again the same as before. I saw her during the summer months several times, but could not find any noticeable change in the uterus; no enlargement. There was never any odor, but the bleeding kept on until finally, about ten days ago, I decided to extirpate the uterus because I had come to the conclusion that the bleeding must be caused by malignant disease. If the bleeding were due to the presence of fibroma or polypus, she would in all probability have pains. Such a

polypus is always recognized by the uterus as a foreign body starting uterine contractions. This woman had no pain whatsoever during the whole time I saw her. Then I felt sure that another cause of bleeding, such as retained placenta or membranes, was absolutely out of question. And so I extirpated the uterus, and, as you see, there is a carcinoma involving the fundus. A microscopical examination of the scrapings in May did not reveal the true nature of the disease. I think if I had been able to enter the uterus with my finger in May, I would probably have been in a position to detect the carcinoma by the softness and brittleness of the affected part, that is, of the carcinoma knot. The softness of the carcinomatous knot in the uterine body is characteristic compared with the toughness of the rest of the uterus, so that one is able to detect quite a small nest of carcinomatous tissue. It is impossible to perforate or impress a healthy uterus with the finger, while it is easy to perforate the carcinomatous portion of the uterus. When I say that it would be only possible to perforate a uterus at a place where there is a carcinoma knot; that the rest of the uterus usually is so tough that it would be impossible to perforate it with the finger. Of course, I except the puerperal uterus, as it is well known how easily it may be perforated.

Uncomplicated Uterine Myoma.

Dr. REUBEN PETERSON: The specimen I wish to present was removed a week ago to-day. I exhibit it to illustrate a point that continually arises in connection with such growths, namely, whether we shall do myomectomy or complete hysterectomy in these cases. The patient was thirty-six years of age, and had noticed the growth since 1890. Recently, it had given her some pressure symptoms, and she sought relief because it interfered with her occupation, that of nurse. The operation was not a difficult one, and the specimen is not shown to illustrate that feature of panhysterectomy. When the abdomen was opened the mass was found freely movable, and the question arose whether a total extirpation should be done or a myomectomy. You will notice that this large mass arises from the top of the uterus by a rather small pedicle, and it would have been exceedingly easy to have removed the larger growth and the smaller ones could have been enucleated equally easily. But as you will see, the top of the large tumor presented small masses just beneath the peritonæum, and the question arose in my mind whether it was not beginning malignant degeneration; therefore, I decided to do a panhysterectomy. because I believe in all cases where there is doubt and the question must be

decided at the operating-table, the entire uterus should be removed, and the cervix should not be left. For this reason I did a panhysterectomy, and the woman has done very well since. Microscopical examination, however, showed the tumor to be a myoma.

Dr. SENN: You mean that it is an uncomplicated myoma?

Dr. PETERSON: Yes. Dr. Trit, pathologist at the Post-Graduate Hospital, who kindly made a careful microscopical examination of the growth, pronounces it a pure uterine myoma.

Etiology of Movable Kidney.

BY CHARLES S. BACON, M.D.

(See page 143.)

Symptoms and Diagnosis of Movable Kidney, with Report of Eighteen Cases.

BY GUSTAV FÜTTERER, M.D.

(See page 151.)

Symptoms and Diagnosis of Movable Kidney.

BY H. B. STEHMAN, M.D.

(See page 162.)

Surgical Treatment of Movable Kidney.

BY L. L. MCARTHUR, M.D.

(See page 168.)

DISCUSSION.

Dr. JOSEPH ZEISLER: I would like to ask Dr. Bacon whether he considers horseback riding an etiological factor in movable kidney?

Dr. BACON: I believe it is one etiological factor, and would be included among the traumas. Each separate item of trauma I did not attempt to take up.

Dr. BYRON ROBINSON: I did not hear one matter mentioned which I consider has a great deal of effect on movable kidney, and that is the long renal artery. I have practised a good deal on the cadaver to see how it acted, and it seems to me, this artery is one of the chief factors in movable kidney, for the reason that it is sometimes nearly twice as long as the left and reaches out to the quadratus lumborum muscle. The long right renal artery will give the longest range of action on the psoas muscles. It has two muscles behind it to displace it from its bed. Then, for example, we have trauma of the diaphragm driving down the liver, and so if we take into account first the long renal artery on the right side, and second, muscular trauma, we will have etiological factors in movable kidney.

The more I practise, the less I do nephrorrhaphy for movable kidney. I have done five hundred post-mortems in order to determine the location of the viscera, and I am convinced that the kidney is hardly ever fixed, but is nearly always a movable organ. I took notes of fifty women, and out of that number in thirty cases the kidney was movable. After two or three days in the dead body the fat becomes solidified, therefore the kidney in the dead body is not nearly so movable as in the living. The average range of kidney-motion in man is three inches, but the kidney is much less movable in man than in woman. In the dead with the fat solidified the kidney could be moved an inch and a half downwards and an inch and a half upwards. I measured two hundred and fifty men, and the longest range of action was two and a half inches downwards and two and a half inches upwards. During the last five years I have taken special pains to examine every woman that came to my office to find out whether she had a movable kidney. These women were examined in the gynæcological chair, as well as when assuming the erect posture, and I have reached the conclusion that five out of seven multipara have perfectly palpable kidneys on the right side. These facts induced me to do less surgery for movable kidney. I do not think movable kidney needs it. I have watched the hanging of kidneys in this city for the last ten years, and I found that it is the amateurs and general surgeons who resort to nephrorrhaphy and nephropexy, and not the gynæcologist. It seems to me, movable kidney is not a surgical disease, but it is a matter which belongs to the internal medical man. Movable kidney is one of the factors of the general process of visceral ptosis, hence we must try to increase our measures of treatment by well-fitting bandages. I certainly would not open the abdomen and make tucks or reefs in

the mesenteries to hold the kidney and viscera up, as one man has reported.

Ætiology of renal and visceral ptosis is a general matter. Seldom is there one viscus alone prolapsed.

1. The right renal artery is longer than the left and is one of the chief supports of the kidney. The left renal artery is short and holds in the concavity the kidney safely on the front of the transverse process of the vertebra out of the way of the action of the abdominal wall. The right renal artery is long enough to allow the right kidney to receive the trauma of the dorsal abdominal wall.

2. The liver is one of the great causes of the movable kidney. It moves with respiration forcing the kidney downward. In inspiration the liver and the right crus of the diaphragm act as a clamp seizing the right kidney and forcing the kidney downward at every breath. This may be impressively noticed in cases in which the kidney glides above the posterior bulge of the liver whence the liver will move in its range of action upward and downward entering below the highly located kidney.

3. Tight-lacing is an active factor in producing mobile kidney. In the cadaver one can demonstrate that the contraction of the waist the viscus chiefly affected is the right kidney. The right kidney is forced into the median line by tight-lacing, whence the action of the liver and diaphragm on the exposed kidney is doubly vigorous.

4. The right kidney has such a long artery that it is more exposed to the trauma of the quadratus lumborum muscle and being lower than the left suffers more from the trauma of the psoas muscle's longest range of action. It thus has more factors to loosen it from its bed.

5. The ascending colon is more loosely attached to the right kidney than the descending colon is to the left kidney and the muscular trauma of the abdominal walls loosens it easier.

6. The absorption of the perinæal fat in general emaciation makes the kidney quite mobile. This process doubtless is changing continually during life.

7. After pregnancy we have as the ætiology of mobile kidney, (a) the sudden loss of intra-abdominal pressure after labor; (b) the sudden forcible contraction of the diaphragm during labor; (c) the subsequent loss of abdominal muscular resistance for some time; (d) the early resumption of the erect attitude and vigorous physical exercise; (e) the subinvolution of peritonæal tissue.

8. The genitals and urinary arose from the Wolffian body. They were originally supplied by the same nerves and blood-vessels. They

are very closely related by blood-vessels and nerves. The congestion of one means the congestion of the other. Subinvolution of one is related to the subinvolution of the other. So that subinvolution of the female genitals both in menstruation and parturition plays a rôle in mobile kidney.

9. Movable kidney chiefly occurs in women, and on the right side. One cannot palpate a movable right kidney in 50 per cent. of multipara.

10. Sacropubic hernia of the genitals, vesicocele, rectocele, with decensus of the bladder aid in dragging the kidney downward.

11. The ætiology of movable kidney in man can only be compared with that of the erect apes, not with quadrupeds.

12. The descent of adjacent viscera abets nephroptosis.

13. Mobile kidney so frequent in adult man that it is a question if it be not a normal condition.

In 200 male adults' cadavers I found that the longest distance from the lower pole of the right and left kidney to the crest of the ilium was three inches. In 200 adult cases the average distance of the lower pole of the left kidney from the iliac crest was $1\frac{1}{4}$ inches.

In 200 adults the average distance of the lower pole of the right kidney to the iliac crest was $\frac{3}{4}$ of an inch.

The widest range of motion was in a right kidney which would move $2\frac{1}{2}$ up and $2\frac{1}{2}$ inches down, a range of 5 inches.

The widest range of motion in the left kidney was $1\frac{1}{2}$ up and $1\frac{1}{2}$ inches down, a range of 3 inches.

In 50 females, and over, I found that the longest distance of the lower pole of the kidney from the iliac crest was 3 inches in both the right and left kidneys. The average distance of the lower pole of the left kidney from the iliac crest was $1\frac{1}{2}$ inches. The average distance of the lower pole of the right kidney from the crest of the ilium was 1 inch. In 50 cases the longest range of motion was 2 inches upward and 2 inches downward, a range of 4 inches. A very frequent range of motion is two inches. In 50 females the kidney was more or less movable in 30 cases.

The treatment of movable kidney consists chiefly of the use of well-fitted abdominal binder during the day-time.

Dr. M. L. HARRIS: It seems to me, in the consideration of the ætiology of movable kidney the most important factor has been omitted. Many of those influences that were mentioned have a decidedly minor effect. The influence of pregnancy in producing movable kidney must be considered of small importance, as in a large percentage of cases movable kidney occurs in unmarried women. In 100 cases reported

by Küster, in 5 it was not known whether they were married or single; 59 of the women were married, and had borne children, and 36 were unmarried; of the 59 women that had borne children, but a small percentage of them had borne more than one child. In the cases reported by Dr. Fütterer, 50 per cent. of them were unmarried and had never borne any children. When we remember that movable kidney is more frequent between the ages of 20 and 40; then consider the number of women married and single between these ages, and find something like from 30 per cent. to 50 per cent. of movable kidneys in unmarried women, the influence of pregnancy must be small. The effect of intra-abdominal tension is likewise very slight. Movable kidney is rarely found an accompaniment of large hernia in the male, that is, scrotal hernia in which the major portion of the abdominal contents are found in the scrotum. Here the intra-abdominal tension must be materially reduced, if not almost negative from the effects of gravity.

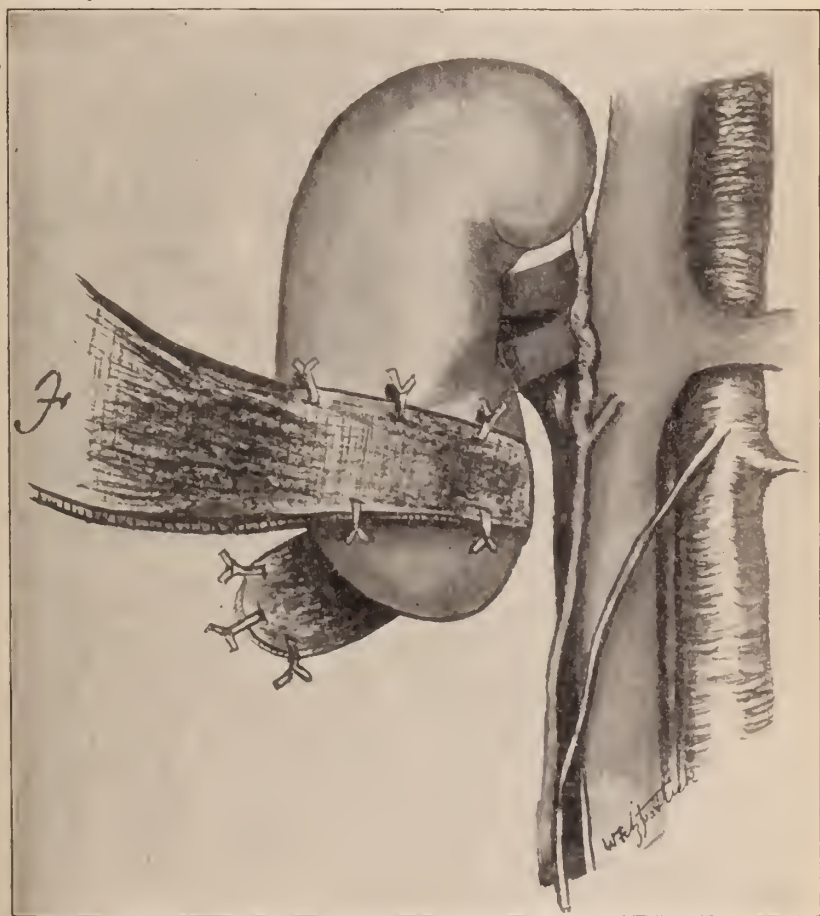
The most important factor in the production of movable kidney, I think, must be accorded to the facts brought out by Küster, namely, anatomical difference between the construction of the male and female form. Küster has elaborated this considerably. [Here Dr. Harris went to the blackboard and demonstrated by drawings that the kidney is influenced in its oblique direction by the psoas muscle, which, owing to the great width of the female pelvis, is always more obliquely situated than in the male.] The kidney lies lower down in the female than in the male so that all muscular action and traumata which forcibly adduct the eleventh and twelfth ribs tend to press the kidney downwards in the female as the pressure comes above the center of the kidney. This is just exactly the opposite in the male where we have almost no incurving in the loin and the crests of the ilia out here [illustrating] are almost parallel with the ribs. The kidney is not so obliquely situated as in the female and the lower ribs when forcibly adducted in the male come below the center of the kidney and tend to crowd it upwards. The presence of the liver on the right side is the main reason why the right kidney is so much more frequently movable than the left. It is a fact that fully 95 per cent. of all movable kidneys occur in females. In injuries to the kidney the percentage is almost exactly the reverse, there being 94 per cent. of injuries in the male, and 6 per cent. only in the female.

Since reading Küster's first article I have noted in cadavers on which I have done my operative courses, the effect of suddenly adducting the lower ribs, and can confirm his conclusions. This is the main ætiological factor in movable kidney.

Dr. GEORGE E. KRIEGER: I take this occasion to say a word or two about a method which I described a few years ago before the Chicago Medical Society, in which I followed the principle of the very clever device described by Dr. McArthur to-night. The case I refer to was a woman, 35 years of age, whose right kidney was dislocated, and was found even lower than the right ovary in the normal position. The kidney was moved from its place and suspended in a loop-kind of pocket to the lumbar muscles and there attached by sutures, the capsule being split open and drawn through the loop of these muscles, so that the kidney could not be affected by misplacement or by any change of position of the adjacent organs. The object of this suture was, as Dr. McArthur has mentioned, to give the kidney as much support as possible, as we know an artificial cicatrix will not easily form by simply attaching the kidney to the surface of the muscles. This pocket seems to have answered the purpose very nicely. I saw the woman a year and a half after the operation was performed. In the meantime she has become pregnant, has borne twins, and the kidney has retained its place. Three years later she was still well, and had not suffered from any symptoms of either floating or movable kidney. I have only had one other case of the kind since, so I cannot give full statistics. In the last case I have not heard of any complaint.

Dr. ALEXANDER H. FERGUSON: In a case of movable kidney, I consider that every incision to expose it is more or less an exploratory one. Sometimes we find a small stone causing hydronephrosis and acting almost exactly like the attacks known as Dietl's crises. We find again, stones in the gall-bladder simulating the floating kidney. I have in mind now three cases that I have met with in which there was a floating kidney and stones in the gall-bladder as well. In these cases the pain would be relieved by the application of bandage and pad, but, as Dr. Fütterer has said, only partially relieved. Upon the kidney being exposed, its condition is to be considered. If there be a firm adherent capsule to the kidney, it had better be stripped off as, for instance, in interstitial nephritis. The stripping off of such a capsule improves the condition of the kidney, in that it liberates its cortical portion, and we observed the improvement in the urine afterwards. Advantage is taken, at the same time, to suspend the kidney, by suturing the stripped-off capsule to the lumbar fascia, to both lips of the wound. If I find, however, that the kidney is normal and the capsule non-adherent, it seems a pity to scarify it, to sew it up or to tear it with sutures, although I have done so repeatedly. I believe all surgeons are guilty of it. The method introduced by Dr. McArthur this evening is on other principles

which undoubtedly occurred to a number of surgeons. The lower portion of the kidney being put into the pocket, would hold it effectually in place, and the stitch he speaks of, internally uniting the peritonæum, would, I believe, sustain the inner portion of it very beautifully. The first opportunity I have I shall try the method. Some two years ago in



(F) Fascia (lumbar) passing around the lower end of the right kidney and suspending it.

working on these same lines, I utilized the lumbar fascia successfully a number of times. First making an oblique incision, exposing fully the lumbar fascia, raising a long flap from the fascia and passing it around the lower part of the kidney in this manner (Fig.). A few

superficial stitches are inserted to prevent it from slipping off. The free end of the flap shows behind the kidney, and it is sutured^d to the fascia of the quadratus lumborum muscle just external to the transverse process of the first lumbar vertebra. This takes away a large portion of the lumbar fascia in that region which is an objection, and it is harder to do this operation than the one advised by Dr. McArthur. I do not think now that it is as good as his. However, I am in favor of trying McArthur's operation. It must be remembered that we should separate adhesions of the kidney to the peritonæum, to bowel, or to other surrounding structures, and that will also give a new rest to the kidney and it is more liable to stay in place. While general surgeons are well aware that over 50 per cent. of the cases of floating kidney do not need surgical interference, still any one of experience knows that there are cases which do need operation badly. General surgeons do these operations after all other methods of treatment have failed.

Dr. E. C. DUDLEY: I am sure the Society would like to hear from our President, who has done some original work on this subject.

Dr. NICHOLAS SENN: I feel complimented in being called upon to say a few words regarding the surgical part of the symposium. I simply rise for a few moments to condemn in the strongest terms all of the older methods of operating which had suturing of the kidney in view. I must confess, that I am astonished to hear a member of the Chicago Gynæcological Society defend the obsolete practice of Lanne-longue. Surgery has made great advance since that time, and we have become fully convinced in consequence of experimentation as well as of clinical observation, that the old standpoint taken years ago, that the capsule of the kidney does not possess intrinsic reparative powers, is no longer tenable. I do not care what kind of suturing is done for the purpose of holding the kidney in place, whether it be sutured to the rib or lumbar fascia. I have become convinced of one thing, namely, that the sutures will never hold for any length of time. I have, therefore, abandoned for a long time the use of sutures, and I have every reason to be pleased with the change. I rely exclusively on the intrinsic power of the capsule of the kidney to produce firm, reliable, permanent parietal adhesions. The operation I now perform has, without exception, yielded satisfactory results in which I have deemed the operation indicated. The operation is this: I expose the kidney by making Simon's incision to remove the adipose capsule, then expose the whole posterior surface of the kidney. I then grasp the lower pole, bring it well into the upper angle of the wound, strip away the adipose capsule as far as the hilus of the kidney, and rely on Nature's resources in

securing early and firm adhesions, inflicting a certain degree of traumatism upon the capsule in the form of scarification. The upper pole of the kidney is rested in the upper angle of the wound and surrounded by gauze packing. Transverse strips of gauze are placed under the lower pole of the kidney to serve as a supporting bandage until firm adhesions take place. I leave these strips of gauze in from five to seven days, at the end of which time the exposed capsule is seen covered by vigorous granulations. If the wound is examined, you will see healthy, vigorous, vascular granulations covering its entire surface. After the removal of the gauze packing, the wound is dressed in the usual manner, the margins kept in contact by applying two or three strips of adhesive plaster over the dressing. Under a second dressing the wound heals without difficulty. I place great stress on the increasing obliquity of the organ, so that the kidney rests in the future against the firm, unyielding support of the posterior abdominal wall. I would advise you in the future to abandon the use of sutures, to say nothing more about nephrorrhaphy, but resort to nephropexy, relying after the operation on Nature's resources in furnishing firm adhesions for the purpose of keeping the kidney in a normal position.

Dr. ALEXANDER H. FERGUSON: I do not wish to be misunderstood with reference to removing the normal capsule of a kidney. I condemn this, and I do not do it. But the peeling off of a thick, pathological capsule is a thing that is desirable. I have gone into this subject at considerable length in my surgical work and the distinguished Professor Klebs agrees with me that where we have a thickened, fibrous, pathological capsule, pressing upon and destroying the kidney, it is good and sound surgical practice to peel off the capsule.

Dr. SENN: I would like to ask Dr. Ferguson if that practice would be applicable to other organs: as, for instance, the liver.

Dr. FERGUSON: The liver is a different organ. It has no fascia propria like a kidney. It has no thickened cicatricial capsule squeezing its most important structure out of existence as found to be the case in a kidney.

Official Transactions

C. S. BACON, *Editor of Society.*

TRANSACTIONS OF THE WOMAN'S HOSPITAL SOCIETY.

Stated Meeting, December 20, 1898.

The *President*, GEORGE TUCKER HARRISON, M.D., in the Chair.

Double Ovarian Cyst.

Dr. GEORGE H. MALLETT: Three weeks ago a woman who had recently arrived from England, came under my care. She was 24 years of age, had been married two years, had one child a year after marriage, and had a miscarriage eight weeks ago, before coming to this country. She had been flowing steadily for a month.

Upon examination I found a large mass on the left side. The abdomen was very sensitive. Ectopic gestation was suspected. I curetted the uterus and packed it with gauze. I then opened the abdomen and removed these masses.

The points of interest are: (1) the obscure diagnosis and (2) the fact that the patient conceived so recently with the ovaries in this condition. The latter shows that very little ovarian tissue is necessary for ovulation.

DISCUSSION.

Dr. J. RIDDLE GOFFE: This is a very interesting case. It is remarkable that the patient should have conceived with the ovaries in such a state. But can Dr. Mallett assure us that the patient really did have a miscarriage eight weeks ago? The history is so indefinite that I think there is some doubt in regard to this point.

Dr. MALLETT: The uterus was large, the breasts distended, and the woman was absolutely sure that she had had a miscarriage. She had previously missed two periods, and there seems no reason to doubt her word.

Dr. N. G. BOZEMAN: I have found that in cases in which there is an adherent tumor near the uterus, the patient is apt to have hæmorrhage, and this bleeding is often mistaken for a miscarriage. It is possible that such was the case in this instance.

Dr. CLEMENT CLEVELAND: In connection with this case I would mention one which came under my care at the Woman's Hospital about

four months ago. The patient's ovaries had been removed some years previously by a colleague, yet the woman had a miscarriage while she was in my service at the hospital. Some ovarian tissue must have been left in the stump and the tube patulous.

Dr. BISSELL: I would like to ask if any of the members have ever seen a case of ovarian cyst in which symptoms of pregnancy were present.

Dr. GOFFE: I have such a case now under my care. The woman skipped two periods and developed all the symptoms of pregnancy. Examination showed a rapidly growing tumor to the left of the uterus. The case was seen in consultation by Dr. Janvrin and we both suspected ectopic gestation. I operated and found an ovarian cyst about the size of an orange, which I removed with the appendages on that side. The woman was very anxious to bear children, and I think that perhaps her mental condition was responsible for the error and for the rapid development of the ovarian cyst.

Large Vesico-Vaginal Fistula.

Dr. NATHAN G. BOZEMAN: The following is the history of a case which recently came under my care: Mrs. S. W., aged 34, German, mother of twelve children. In all of her confinements she has been attended by a midwife. At the last labor pains began in the afternoon of November 17, 1897; at eleven o'clock in the evening the head came down on the perinæum, the presentation being a vertex one. In spite of the efforts of the midwife the head could not be delivered and no progress was made by four o'clock the next afternoon. A physician was then called in who delivered the woman, with forceps, of a very large dead child. After the confinement the mother passed no urine until noon of the next day when it began to flow involuntarily.

On January 17, 1898, the patient was admitted to St. Mary's Hospital. Examination showed that the anterior and posterior lips of the cervix had sloughed off, together with the adjacent portion of the vaginal wall and bladder, leaving a large fistulous opening, two inches in transverse diameter, extending from the ureter on the left side to some distance beyond the right one, which could be seen where it opened into the border of the fistula.

I first laid the right ureter open at least one-half inch in its length, cutting through its wall into the bladder, and, as a precautionary measure to ensure its patulous condition in the bladder and away from the edge of the fistula, ureteral sounds were passed every few days

In the preparatory treatment of the case I had the patient to wear a hard rubber intra-vaginal dilator in order to gain mobility in the hard, unyielding borders of the fistula. I also adjusted for her use a Boze-man vesical-drainage support with a soft rubber urinal attached, which kept her dry while she was wearing it.

On February 19th, with the patient secured on Boze-man's operating-chair in the supported knee-chest position, I denuded the borders of the fistula and passed five sutures (No. 26 silver wire), taking care to include the place where the ureter had terminated between two of them. It must be remembered that most of the posterior border of the fistula consisted of the stump of the anterior lip of the cervix which was fixed except for slight mobility from pressure upwards imparted by the use of the intra-vaginal dilator. In passing one of the needles I broke it off and was not able to find the point. However, after adjusting the sutures, the line of union seemed satisfactory and I applied a suitable button.

I removed the sutures on the eighth day. In the meantime there was considerable cystitis, and the day before some escape of urine. The result was a small opening remaining, one-fourth inch in diameter.

In about two months I made an attempt to close this, but there still remained an opening the size of a probe. The patient was then sent home in the expectation that this would eventually close, but she returned in July, with a bad cystitis and exhibited small particles of earthy deposits which had come from the bladder. Then on examination I made up my mind that there was a vesical calculus. I immediately cut into the bladder at right angles to the old cicatrix and through a good-sized opening removed a large phosphatic stone, the nucleus of which was a small pledget of cotton. The point of the needle which I had broken at the first operation also came to light.

Soon another complication arose in the shape of a contraction of the vagina. An annular band formed, the posterior segment of it being the stump of the posterior lip of the cervix and the anterior of the cicatrix of the old fistula—the opening into the uterus and the fistula itself being in a kind of sulcus which rendered the latter inaccessible for operation. By lateral incisions into this contracture and by dilatation, I soon brought about a more natural and distended condition of the vagina and in October I closed the fistula without any trouble.

I report this case because of the complications necessitating a number of operations, which is contrary to my experience with the button suture in cases of very large fistulæ. The employment of it in closing such extensive openings at one operation has many advantages, although

I am well aware that some authorities claim that it is just as well where the fistula is large to render the opening smaller and smaller by a succession of operations with the simple interrupted suture.

DISCUSSION.

Dr. GOFFE: The case is most interesting. It is consoling to know that even such an expert operator as Dr. Bozeman sometimes fails to get complete union.

THE PRESIDENT: I am very glad to know that there are so few of these cases in the Woman's Hospital now. I do not know of anything which shows more the advance made in the practice of obstetrics than the rarity of cases of vesico- and recto-vaginal fistulæ. Not so many years ago the Woman's Hospital was full of such cases. I remember one in which Dr. Emmet put in eighteen stitches.

Dr. CLEVELAND: I have at present under my care a case of vesico-vaginal fistula. It was not the result of parturition, however, but was accidentally produced during a vaginal hysterectomy. While dissecting the uterus from the bladder wall, my finger penetrated the latter. This would not have happened had the patient's bladder been emptied prior to the operation. I completed the hysterectomy and stitched up the rent in the bladder with catgut.

Dr. BOZEMAN: In regard to the piece of cotton which was found in the patient's bladder, it was undoubtedly the cause of failure to get union. I do not know how it got there. I do know, however, that no cotton was used at the first operation. I see two or three cases of vesico-vaginal fistula every year. In the last one I saw, the whole urethra was split and the perinæum torn through the sphincter. There was almost complete incontinence of urine and fæces. I first successfully closed the urethra with the button suture and then repaired the perinæum.

Vaginal Hysterectomy for Large Fibroid

Dr. GOFFE: There came to me last month a woman, about 40 years of age, who complained of pain in the pelvis. Examination showed a soft fibroid tumor of the uterus which seemed to extend into the right broad ligament, and I advised its removal through the vagina. I brought the specimen here to-night to show the size of fibroids which can be removed by myomectomy through the vagina. In this case, however, I did not do myomectomy because I found a number of small

fibroid nodules in the walls of the uterus, but did hysterectomy. The entire mass was removed through the anterior vaginal fornix. I intentionally left the appendages of one side.

DISCUSSION.

Dr. MALLETT: I recently had occasion to operate through the anterior vaginal fornix and was struck with the facility with which the appendages can be reached.

Dr. A. P. DUDLEY: The specimen brings up the question: Why did not the doctor remove the uterus by morcellation instead of making a large incision in the vaginal fornix in order to remove it intact? It is interesting to note that Jacobs and Segond have revised their methods and now do work by morcellation, then put ligatures behind clamps, then removing the latter and closing the vaginal vault with one or two sutures. This operation is said to be followed by less shock than is hysterectomy *en masse*.

Skene's Electric Hæmostatic Forceps.

Dr. CLEVELAND: I would like to refer briefly to the good results I have had from the use of Dr. Skene's electric hæmostatic forceps in both abdominal and vaginal work. I never use a ligature when I use a clamp, for there is no danger of secondary hæmorrhage. Another advantage is that the nerve is devitalized and the patients suffer little pain after operation.

Complete Incontinence of Urine.

By L. GRANT BALDWIN, M.D.

(See page 131.)

DISCUSSION.

Dr. BISSELL: The author has referred to pressing up the anterior lip of the cervix as the head descends. He cannot lay too much stress upon the importance of this measure.

Dr. WHITAKER of California (by invitation): I was about to speak of the same thing. It is my practice to keep my finger on the anterior lip and press it up. I certainly do not believe that one can confine a woman properly without making a vaginal examination.

Dr. DUDLEY: I have been demonstrator to the Chair of Anatomy in two medical colleges and I have spent a great deal of time dissecting out the fine muscles of the sphincter in both the male and female bladder. In some cases they are so pale that they can scarcely be demonstrated, and I have frequently had to color them with Jamaica rum in order to make them visible.

The point raised by the author in regard to the falling in of the anterior wall before the head of the child is a legitimate one. The splitting of the fibers of the anterior wall is like tearing of the perinæum. It heals, but with less power of resistance—otherwise there would be no cystocele in women. The treatment devised by the doctor is based upon anatomical facts and is a good one.

Dr. GOFFE: I agree with the author in his description of the lesion. I would, however, take exception to his statement that there is no surgical procedure for the relief of this condition. I have found that an extensive colporrhaphy will relieve the incontinence of urine, especially in elderly women. The ball pessary and the Emmet pessary often give relief by pressing the urethra against the arch of the pubis. I once successfully treated, with a Gerung pessary, a woman, 58 years of age, suffering from incontinence of urine.

THE PRESIDENT: I think that the prevention of the deformity is an important point. The author proposes to avoid this lesion by watching over the process of parturition. I fear, however, that very few obstetricians are willing to take the extreme care which is recommended in the paper in regard to external instead of internal manipulation. Still, the dictum laid down in reference to making as few internal examinations as possible is a good one. Like Dr. Goffe, I have seen cases in which the Gerung pessary has done very well.

Dr. BALDWIN, in closing: I made a point of the fact that in none of the cases reported was there a cystocele, the condition being a simple loosening of the urethra at its upper third. In the third case the lesion was due to straining at stool; and complete incontinence, not partial, was the cause of complaint. I am indebted to Dr. Dudley for his remarks on anatomy.

Official Transactions.

G. NATHAN BOZEMAN, *Secretary.*

ABSTRACTS.

This Department is in Charge of the Following Staff of Sub-Editors:

DR. T. W. CLEAVELAND, DR. G. H. MALLETT, DR. A. D. CHAFFEE.

GYNÆCOLOGY.

UNITED STATES.

Carbide of Calcium in the Treatment of Uterine Cancer.

EMIL RIES (*Chicago Medical Recorder*, December, 1898) does not advocate the use of carbide of calcium as recently suggested in the treatment of uterine cancer, for the reason (1) that the acetylene gas has no escharotic action; (2) that the carbide does not make the cancer patients more comfortable than any other treatment; (3) that this treatment is not only not superior to other methods of treatment of inoperable cancer but exposes the patient to unnecessary dangers. In experimenting with the acetylene gas he found that it had no effect on this conjunctiva, proving that it did no escharotic action. By adding water it produced a soft grayish slough, surrounded by a red area. This slough is produced by *quick-lime*, as shown by the chemical formula (carbide of calcium) C_2Ca . (water) $+ HO = C_2H_2$ (acetylene) $+ CaO$ ("quick-lime") which substance, as is well known, has long been used and discarded, for the reason that it produces a soft slough which does not limit its own action by producing a firm impermeable layer as do the strong acids. For the same reason carbide of calcium cannot be used to check active hæmorrhage, the necessity of which can be readily appreciated. The dangers of this treatment are *first* those of producing deeper sloughs than desired (also the dangers of getting the quick-lime into undesirable places), difficulty in handling it and, lastly, the possibility of explosive compounds being formed with the acetylene gas and copper and brass instruments.

From a clinical point of view, the histories of cases cited do not warrant the conclusion that the cases live longer or more comfortable after this treatment than after other palliative methods employed. In concluding he says that it is the constant complaint among gynæcologists that many of the cases of cancer are brought too late for opera-

tion and that valuable time has been lost with internal and topical medication, and while the author of the method does not promise *radical* cure, it is only too apt to create new confusion and leads to more tinkering on the cancerous cervix and to jeopardize numbers of lives which could be saved if subjected to the only proper treatment known to us at present—extensive radical operation. As to the use of quicklime in the shape of carbide of calcium in cases of inoperable cancer, centuries of surgical experiences have given a verdict which does not encourage new experimentation.

The Gonococcus as a Prime Factor in the Causation of Diseases of the Uterus and Adnexa.

WINSLOW ANDERSON (*Western Review*, January 18, 1899) believes that the prime cause of sterility in both man and woman is the gonococcus. One of the great causes of dysmenorrhœa and the prime ætiological factor of pyosalpinx, pelvic cellulitis, and oöphoritis can also be traced to the same cause, the gonococcus, with its followers, the streptococcus and the staphylococcus. Vedeler investigated 310 sterile women and found that undoubtedly gonorrhœa was the most frequent cause of sterility. He also examined 50 of the husbands and found that 38 had had gonorrhœa and that 34 had infected their wives. At this rate, 235 of the 310 husbands had had gonorrhœa and 210 of them had probably infected their wives. Blokusewski-Daum advocates a preventative treatment, the dropping into the meatus two (2) drops of a 10-per-cent. solution of nitrate of silver. Fifty (50) patients treated this way experienced no irritation. Five (5) seconds' application of this solution always inhibited the growths of the gonococcus in artificial media. De Smet believes that formalin offers the most rapid available means of cure of gonorrhœa in the female. The vulva is washed with a 1 to 1000 solution of formalin and before introducing the speculum the vagina is washed out with a 2 to 3 per cent. solution and the cervical canal swabbed out with 1-500 solution. Even in grave cases where a curetting is indicated the application of formalin is of advantage. The treatment is recommended by Anderson for acute cases seen within thirty-six hours after contagion is to swab the vagina with 1-in-500 solution potassium permanganate; also, wipe out cervical canal and urethra with same solution and apply tampon of 1-500 potassium permanganate in boroglyceride to cervix. This is to be followed in six hours by a douche of 1-1000 potassium permanganate, at 110°, followed by tampons, as before. This treatment is continued for

twenty-four to forty-eight hours, the solution reduced to 1-2000 to 1-10,000 at longer intervals, with the result that the extension of the disease into the uterus and urethra is prevented, the gonococci destroyed, and the case generally cured in from five to ten days. In subacute and chronic cases a thorough curettement, followed by intra-uterine applications of iodine and carbolic acid and packed with iodoform gauze, afterward hot douches of permanganate solution, 1-1000 to 1-10,000 twice daily; Skene glands and Bartholin glands should also be carefully disinfected, peroxide of hydrogen being very useful for this purpose.

Thorough systematic treatment (which is not readily submitted to by patients), is the *sine qua non* of an early cure or a possible prevention of the frightful ravages of this dreadful disease.

Intra-uterine Vaporizations.

ABRAM BROTHERS reports six cases treated by this method, among a series of twenty-four gynaecological cases. The treatment was devised by Snegirew of Moscow. Through the writings of Pincus of Dantzig, who has materially improved the original instruments, we are most indebted for our knowledge of the subject. The idea of the treatment is to introduce steam at a temperature of about 100° C. into the interior of the uterus. The vulva and vagina are protected by gauze or a cylindrical speculum and the superheated steam to come in contact with the uterine cavity for a period of time varying from five to fifteen seconds. The indications for this treatment are numerous—all forms of endometritis, particularly those associated with hæmorrhage. The cases where the treatment was especially indicated were those in which hæmorrhage or leucorrhœa occurs after the climacteric, gonorrhœa of the uterine cavity and puerperal endometritis. The possible evil sequelæ were atresia of cervix and obliteration of uterine canal. He had endeavored to avoid these by previous dilatations of cervix by limited period of application of steam and by subsequent introduction of gauze into uterine cavity. One of the regular results of this treatment is a profuse leucorrhœal discharge, during which the entire mucosa is broken down and discharged just as surely as if it were scraped off by a curette. Only one case has been recorded in which the discharge had a foul odor. That it does sterilize the uterine cavity has been proven by bacteriological examination. The treatment by vaporization seemed to afford an opportunity for treating those cases who would not submit to an operation like curetting or who would

not remain in bed the proper length of time. No anæsthetic was required. No after-treatment. The number of cases in which this treatment was applied were not sufficient to warrant positive opinions as to its ultimate usefulness, but the immediate results were uniformly satisfactory.

OBSTETRICS.

UNITED STATES.

Puerperal Insanity.

BARTOW W. STONE (*The Med. and Surg. Bulletin*, October, 1898) defines insanity as a prolonged change in an individual's usual manner of thinking, acting, and feeling, caused by disease or mental degeneration. Puerperal insanity most commonly assumes the form of either mania or melancholia, and may occur at any period from the beginning of conception on through lactation, though it is more common after delivery than before.

The nervous or anæmic, or those predisposed to insanity by inheritance or disease are more liable to lose their mental balance under the strain of pregnancy than others. Twin births are more commonly followed by insanity than single births, and women who marry late in life are especially liable to it.

Puerperal insanity is usually some days in developing. The patient becomes restless and excited, or depressed and anxious, according to the form of insanity. At the first symptom of mental change the patient should be watched with the greatest care by friends and physician, and every effort should be made to raise the physical condition by tonics, nourishing food, rest, and recreation. Suicidal or homicidal tendencies are usually present, and the patient should never be left alone, night or day. The refusal of food must be met, if necessary, by forced feeding, either by a stomach or rectal tube. As a rule patients do better when removed to some institution where they can be cared for by those accustomed to the management of the insane. Narcotics, as a rule, are contra-indicated, and better sleep will often follow a warm bath and hot milk or beef tea than after a powerful hypnotic. Trional is

the least objectionable hypnotic. Chloral may be used a few times, but its use should not be continued.

The bowels are usually constipated, and after an initial full dose of calomel, the phosphate of soda, taken in full doses before breakfast, is an excellent laxative. Nursing must be suspended and the breasts well cared for. As little force as is practicable should be used in the management of the patient. The conversation in the sick-room should be cheerful and practical, making no attempt to combat the delusions of the patient by argument. Where ordinary measures, including medicines, fail, the writer invariably uses the animal thyroid extract, pushing it to the limit of toleration. This has often worked admirably, the patient recovering within a few months.

Compound Intra-uterine Fracture of the Femur.

A. D. WILKINSON (*Am. Jour. Surg. and Gyn.*, October, 1898) reports the case of a woman, an epileptic, who gave birth to a child in every way perfect except for considerable shortening of the right leg. Careful examination showed that the joints were all right, but the right femur was much shorter than the left. There was a cicatrix in the anterior aspect of the middle third, and the femur had evidently been broken—a compound fracture—in utero, and had united at an obtuse angle. This angle disappeared in the course of a few months, until the bone was nearly straight, but there was so much shortening that a mechanical apparatus had to be used for the short leg when the child began to walk. In the fifth month of pregnancy the mother fell against the stove during an epileptic seizure, but no pain followed the accident. Another theory advanced to account for the fracture was a possible blow from the husband, who afterwards deserted the woman. But still another theory is, that during an epileptic attack, the abnormal increase of muscular power of the abdominal muscles would be sufficient to hold as in a vice, the fœtus, most likely raised up against the abdominal walls, the somewhat brittle shaft of the femur in perfect position to receive an injury from the spasmodic contractions of the abdominal muscles.

Writers on the subject of intra-uterine fractures coincide in the belief that external violence to the maternal abdomen may fracture the bones of the child, without injuring the elastic abdominal walls of the mother.

Simple and Malignant Jaundice of Pregnancy.

W. B. YOUNG (*Medical News*, November 12, 1898) says that all authorities agree that while simple jaundice is not of uncommon occurrence in pregnant women, the graver form of the disease is very rare. Carl Braun observed it only once in 28,000 pregnant women, and Winkel once in 16,000 cases. Playfair says in regard to the prognosis in the graver form of jaundice that it is "as bad as anything can be, very few cases, and these of doubtful character, having recovered." The transition from a simple icterus to the malignant form is gradual and insidious, usually manifesting itself by rise of temperature, cerebral symptoms quickly develop, and the progress is rapid toward a fatal issue. Emptying of the uterus avails nothing in the interest of either the mother or child.

The three cases of jaundice reported by the writer developed within a few days of each other, and all lived not more than one hundred yards apart. Might there have been a local cause? Two of the women, Cases II. and III., were twin sisters, occupying the same house. Has the disease a hereditary tendency?

Case I.—A healthy woman of thirty-five, mother of ten children, six-months' pregnant, consulted the writer for jaundice. Diuretics, baths, and the ordinary remedies for jaundice were prescribed, and nothing more was heard from the patient for ten days, when the jaundice was found to be much increased, she was suffering from pain in the stomach and severe headache. Everything looked yellow to her. There was no elevation of temperature, pulse 80, urine scanty and high-colored, stools, clay-colored. She was in excellent spirits, laughing and jesting about her condition, no cerebral symptoms except the headache. At nine o'clock that evening a messenger from her said that the pain in the stomach was very severe. Two tablets of morphia, one-fourth grain each were sent, with directions to give one at once, and the other in two hours if needed. Urgent directions to call the doctor if any bad symptoms were observed were given, but no call was sent until five the next morning, when she was said to be dying. The patient was found in coma, stertorous breathing, pulse 100 and feeble. Skin of a dull yellow color, almost coppery. Feet, legs, hand, and arms much swollen. They had been entirely free from swelling the preceding day. She remained in this condition of profound coma until 2 P.M., when she died. A dark fluid, like coffee grounds, flowed continuously from

her mouth for some hours previous to death, and a short time before she expired there was a dark, bloody discharge from the vagina.

Case II.—The patient was eight-months' pregnant. When the doctor was called he found the patient suffering from pain in the stomach. There was marked icterus, pulse 88 and feeble—temperature normal. Urine was scanty and high-colored. She had been vomiting freely, the vomitus resembling coffee grounds. She was hungry but nothing could be retained in her stomach. The next morning she was delivered by a midwife of a puny, much-jaundiced infant. The labor was very easy. That afternoon her pulse was 110 and feeble. Temperature and respiration normal. Jaundice had increased, vomiting persisted, and the stools were dark and waxy. The following day she was unconscious and delirious, the vomiting had ceased, but the face, hands, and feet were beginning to swell. She continually ground her teeth and would not swallow. The condition remained about the same for three days. No movements of bowels, but involuntary discharge of urine. On the fourth day she suddenly aroused from her stupor, recognized her friends and took medicine and food. Still complained of pain in the stomach. Pulse 120; temperature 99.8°. Speech slow and labored. Three days later the bowels and kidneys were acting normally and the skin cleared. In five days she was practically well, but the days of her illness were a perfect blank to her.

Case III.—A sister of the preceding case was three-months' pregnant. Was attacked with simple jaundice the day after her sister's confinement. Hot baths, light diet, and diluted muriatic acid, 15 drops in half a glass of water, three times a day, were prescribed. In ten days she was practically well.

Quinine as a Uterine Stimulant.

W. J. WHITE (*Peoria Med. Jour.*, December, 1898) says that the action of quinine upon the uterine fibers has been a much-discussed question. It may be considered under three heads: (1) Does it produce abortion when administered to pregnant women suffering from malaria? (2) Does it produce abortion in a healthy woman? (3) What is the evidence in regard to the action of quinine during labor?

Investigations by Southern physicians seem to show that abortion is not especially common in malarial subjects, and that it is quite as likely to occur where no quinine has been given. Some even go so far as to state that the administration of quinine will arrest a threatened abortion due to malaria. The conclusions in regard to the second question are

even more unanimous in affirming that quinine has no effect upon a healthy woman.

Dr. A. H. Smith of Philadelphia believes that the drug acts as a powerful tonic to the general nervous system, and attributes its stimulating effect on labor-pains to this cause; but others claim a specific effect upon the uterine muscle. In thirty consecutive cases in the writer's experience the result of the administration of quinine has been more rapid delivery by regular and forceful pains which something has benumbed, and it would seem that the quinine possessed a slight analgesic power. The placenta is usually delivered quicker, and there is less hæmorrhage than where ergot is given. Indeed, the writer has substituted quinine for ergot in all cases.

It is not claimed that quinine will always be as constant or satisfactory in its action, but as a powerful uterine stimulant, especially in cases of inertia, or cessation of the pains altogether, it acts in a decided and most efficacious manner, and is deserving of a thorough trial.

Acute Hepatitis during Pregnancy.

LETITIA WESTGATE (*Woman's Med. Jour.*, December, 1898) says that jaundice during pregnancy is rare, and while it may exist in its simple form, disappearing without any serious result to mother or child, it may also be the initial manifestation of acute yellow atrophy of the liver; in such cases the prognosis is bad for both mother and child. A case came under observation during the last year that had some unusual features. The patient had been married four years, but had not been pregnant, and expressed a great aversion to having a child. At the writer's first visit, the patient was vomiting a greenish fluid, but pulse and temperature were normal and there was no abdominal tenderness. She affirmed that menstruation was regular and no examination was made. Calomel in repeated doses was ordered, and the woman was soon better. Two weeks later she called, complaining of nausea, examination showed that she was pregnant, although she persistently denied it. She was very low-spirited after this and made threats of suicide. Four months later she was taken with severe pain in the right hypochondriac region, and vomited large quantities of a bright green fluid. Labor pains had set in, and the os was dilating without any hæmorrhage. Two days later the patient's temperature had risen to 103° and the os uteri was fully dilated. A six-months' fœtus was delivered alive. The temperature fell to 102° , and the bowels were freely moved by laxatives. Thirty-six hours later the patient became

suddenly jaundiced over the upper half of the body, the temperature was still 102° , the tongue coated and breath very offensive. There was a small per cent. of bile pigment in the urine. The patient became quite uncontrollable, screaming, jumping from the bed, and trying to bite her husband whenever he came near. One-fourth of a grain of morphia was administered. Two hours later the writer was recalled with the statement that the patient was suffering from "morphine-poisoning." She was apparently unconscious, but the pupils were not contracted. A prominent physician was called in consultation and pronounced the nervous condition hysterical, and gave a favorable prognosis. The case was seen by him and two other doctors several times during the day, and all gave a favorable prognosis, but at three o'clock the patient had a convulsion and died. No autopsy could be obtained. There were some peculiar conditions in the case. The absence of albumin from the urine; the late appearance of the jaundice; the birth of a living child unstained by bile, and the absence of bile stain from the liquor amnii.

Puerperal Eclampsia from a Medical Standpoint.

LOUIS FAUGÈRES BISHOP (*Virginia Med. Semi-Monthly*, December 9, 1898) says that there is still much room for speculation as to the nature of eclampsia, nor is it possible to bring all cases into line with any one of the present theories. To produce the convulsions, there must be a susceptible nervous system, and a sufficient active cause.

There is probably a closer parallel between epilepsy and puerperal convulsions than is generally admitted. In both, a poison of some kind is generated in the system that, acting on the nerve centers, produces a convulsive attack.

In eclampsia there must be a condition, covering a wider ground than the albuminuria of pregnancy, because there are many cases in which the kidneys play only a secondary part. Emotion or worry, as an exciting cause is very important, and to this may be attributed the greater frequency of eclampsia among primiparæ. Eclampsia must be distinguished from the convulsions of chronic Bright's disease, and is due to some specific convulsive poison, which must be eliminated and neutralized. Elimination must depend on the increased activity of the skin, bowels, and kidneys, while neutralization is best accomplished by the use of morphia. The irritability of the nervous system is also controlled by the use of morphia. Bleeding, by decreasing the congestion of the nervous centers, diminishes the tendency to convulsions;

by decreasing the congestion of the kidneys, favors excretion, and at the same time removes a portion of the poison itself—not much, of course, but perhaps enough to diminish the excess of this convulsive poison. No severe and appropriate case of puerperal eclampsia should be allowed to go without this relief.

Labor in a Primipara with a Double Vagina.

CHAS. J. HOBAN (*Phila. Med. Jour.*, December 10, 1898) was called to a patient in labor, and on examining her found the os soft and dilatable, and the vagina quite large. On a second examination the vagina seemed greatly contracted. Puzzled by this, the fingers were withdrawn and reintroduced, when the vagina again seemed normally large. On attempting to dilate the cervix, what seemed to be a large anterior lip was felt to the right, on pressing this the finger slipped into a sort of pouch leading to the outlet of the vagina. Ocular examination showed within the labia majora a double hymen and a double vagina, divided by a septum extending up to within half an inch of the os. A foot now presented, and was soon in the larger vagina. The chances of the other foot coming down into the other vagina, thus straddling the septum, were considered, and the patient was advised to have the septum cut, but refused. Fortunately the breech came leaving the other leg flexed on the body; the septum was pressed to the right as much as possible, and the child was soon delivered. A large flap was now seen hanging at the vaginal outlet, it was about three inches long and one inch wide with a raw surface, where it had been torn from the anterior vaginal wall. It was still attached posteriorly. The flap was treated antiseptically and replaced in the vagina, and its removal in a few weeks advised. On the patient's recovery, and walking about, the flap protruded, but though a source of discomfort, the patient refused to have it removed.

The Relief of Suffering in Labor.

W. E. FOTHERGILL, Manchester, Eng. (*The Med. Brief*, January, 1899), says that the relief of pain is one of the first duties of a physician, and although fully half of the actual pain in this world is probably borne by parturient women, yet pain of this kind receives far less attention than any other form of suffering. The amount of pain endured does not depend upon the difficulty or danger of the labor; many normal confinements are most painful. The agonies of childbirth are often

regarded as a harmless necessary evil, which, being incurable, must be endured. Apart from actual labor pains, there are many minor discomforts which are neglected in the lying-in room, which would be promptly attended to under other circumstances. The obstetrician who has to remain some hours with the patient while labor is progressing can use his time to no better advantage than in relieving, as far as possible, the patient's sufferings. "If he takes this extra trouble he may be sure that he will meet with his reward without waiting till he reaches the next world, for the fashionable accoucheur is not the one who meets risks of death with a cool head and a sure hand; it is he who sees his patient through common every-day confinements in the most comfortable manner possible."

But prevention is better than cure, and much pain during labor may be saved by careful preparation for labor. Labor must be looked upon as a matter of muscular endurance and pluck; it is an athletic performance, and should be trained for as such. The physician should do his best to bring her up to the day of the event "in good form." She should have plenty of sleep, and as much exercise in the open air as is possible short of actual fatigue. Cycling is by no means a bad exercise for pregnant women, if accidents and undue fatigue are avoided. Walking rapidly enough to quicken the breathing and increase the heart's activity is, however, the best general exercise. Alcoholic drinks and late hours must be avoided; a necessary amount of ordinary food should be taken, and no more. Constipation must be prevented. Corsets should be discarded after mid-term, or especially constructed for the needs of pregnancy. Garters should be given up in favor of suspenders. The nipples should be manipulated into good shape and kept soft and smooth by emollients. Ordinary ailments arising during pregnancy should be treated more by rest, and less by drugs, than usual.

Near the end of pregnancy women often suffer greatly from so-called "false pains." They are more irregular and continuous than true labor pains and generally more toward the front of the body. A physician often merely prescribes an opiate and goes away, telling the family to send again when *sure* that labor has begun. In most cases these pains are due to a loaded rectum, and it is worth while to take the trouble necessary to relieve the patient. First, wash out the rectum with one, two, or three copious enemata, then put the patient in a full-length hot bath, and keep her there from ten to twenty minutes. Opium or the bromides may be used also at the discretion of the physician. Mustard applied to the abdomen will often give relief in bad cases.

The first stage of labor is generally tedious, and often accompanied

by great suffering. Too many times the patient is put off with the promise of assistance later on, and nothing done to relieve the present discomfort. One thing should be done as a matter of absolute routine, the washing out of the rectum with a large enema of soap and water, with a little turpentine added. This is not only a physical but a mental comfort to a sensitive patient, who is fearful of expelling fæcal matter in her bearing-down pains; while the absence of danger of fæcal contamination for the hands and instruments is a boon to the accoucheur as well. In maternity hospitals, the poor, dirty patient is placed immediately in a hot bath, if she enter the hospital in labor. This is practised there for cleanliness, only, but the hot water relaxes the muscles and relieves the discomfort to a marked extent. "The best place for the first stage of labor is the bath-room."

Nausea and vomiting often cause suffering even in healthy women. The accoucheur usually quotes the old saying, "A sick labor is a quick labor," remarks cheerfully that the vomiting will do the patient good, and does nothing to relieve it. A mustard-leaf on the stomach is often efficacious, or remedies that would ordinarily be used to control vomiting can be administered.

In the "colicky" pains of the uterus due to almost continuous and irregular contraction, or where there is spasmodic action, the cervix closing rather than opening during the pains, the patient should be allowed to inhale the vapor of chloroform until once fully anæsthetized, the effect should then be allowed to pass off gradually, giving a whiff now and then. The patient then usually goes on with the first stage in a more comfortable manner. Apart from these two conditions, chloroform often acts favorably on a rigid and slowly dilating cervix.

In dry labor, when the membranes rupture at the beginning of the first stage, women ought often to have actual assistance in the dilatation of the os, either by the fingers of the accoucheur, or by the use of the Champetier de Ribes bag.

In cases where exhaustion comes on with little or no progress made in the dilatation of the cervix, either the patient must be given a good rest by sedatives, or matters must be helped forward by the physician. If the patient is restless and nervous as well as exhausted, enough chloroform to abolish the reflexes may be given, then a hypodermic of morphine and the patient be allowed to sleep. Often on awakening a great amount of cervical dilatation will be found to have taken place unconsciously.

If the second course is decided upon, hot baths, friction over the abdomen, change of posture, or the application of a binder, may be use-

ful. Quinine in five-grain doses repeated every hour (for three or four hours if necessary), greatly strengthens the uterine contractions. Of course, in extreme cases, where the condition of the mother or the child demands haste, the cervix must be dilated by the fingers or the bag.

In the second stage of labor, the great question is the relief of suffering by chloroform. Any time after the dilatation of the cervix is complete, the membranes ruptured, and the way clear to the end of the labor, the physician may begin giving chloroform. A few drops on a folded towel to begin with mixed with plenty of air, then a whiff or two as each pain comes on, will keep the patient resting quietly in the intervals between the pains. When the head is about to escape, push anæsthesia a little farther, till the patient loses consciousness, and keep her so until the head is born, then give no more.

Two minor points in this stage are the sufferings arising from cramps in the limbs, and pain in the back. The former may be relieved by hard rubbing by the nurse, and the latter by firm pressure on the sacrum. The doctor should see that the nurse does this.

Unnecessary pain is often caused by too vigorous manipulation of the uterus to expel the placenta. Unless there is hæmorrhage or an adherent placenta, time should be allowed for the placenta to separate and then a slight squeeze will expel it into the vagina.

Lacerations of a serious nature must be repaired under an anæsthetic, but tears of the perinæal body may be united by passing the needle through the muscle and connective tissue only, not touching the skin or mucous membrane, in this way the operation is almost painless. Catgut sutures should be used to avoid the necessity of removing stitches. After-pains may sometimes be avoided by, from the first, allowing the patient to turn over on her hands and knees to pass water, thus allowing the clots and discharge to run freely from the uterus and vagina. Should after-pains persist, a little opium, with postassi nitras or spiritus etheris nitrosi and hyoscyamus or belladonna as anti-spasmodic may be given.

Another minor detail is in the choice of an aperient; many women dislike castor-oil or salts exceedingly—why not give two or three grains of calomel, followed by a small saline in the morning.

Other details will suggest themselves to physicians.

Puerperal Septicæmia following Placenta Prævia.

I. FLETCHER HORNE (*The Med. Age*, January 10, 1890) was called to see a patient who had had a sudden and profuse uterine hæmorrhage,

losing about two pints of blood. He found her very weak. She was about eight-months' pregnant and the os was partially dilated. On introducing the finger a condition of complete placenta prævia was discovered. A history of three previous hæmorrhages during this pregnancy was obtained. Chloroform was administered, dilatation of the os completed by the fingers, the placenta separated, and delivery of the child, feet first, accomplished without further hæmorrhage. The patient was very weak and had a temperature of 101° . Cinchona and salicylate of soda were given, and the condition remained practically unchanged until the fourth day, when a severe rigor was followed by a temperature of 106° , falling later in the day to 102.6° . Fifteen grains of quinine were given and the uterus washed out with perchloride of mercury, 1 to 2000. No débris came away from the washing. The following day the temperature was 103° , the washing was repeated, and 10 c. c. of antistreptococcic serum were injected. That evening the temperature was 104.4° but rose to 105° at 2 A.M., the next day. The injection of serum was repeated. In the afternoon a second rigor occurred followed by a temperature of 105.6° . A profuse diarrhœa began. These conditions continued the next day, and a third injection of serum was given at 11 A.M. The patient grew steadily weaker and the temperature was 110° before death which occurred at 9 P.M. There was apparently nothing gained from the use of the antistreptococcic serum.

A Case of Annular Separation of the Cervix during Labor

JULIUS SACHS (*Phila. Med. Jour.*, January 14, 1899) was called by a medical friend to see a primipara in labor. Forceps had been applied three times, under chloroform, but the head could not be extracted. He considered the head impacted in the pelvis. Before applying the forceps the writer wished to make a thorough digital examination. On introducing the fingers into the vagina, a lump of soft tissue was felt which proved to be the amputated cervix, two inches wide, and twelve inches in circumference, hanging to the uterus by about half an inch of tissue. This point of attachment was severed with but slight loss of blood. Forceps were then applied and a living child extracted. An adherent placenta was removed, the uterus washed out with a hot bichloride solution (1 to 5000), and the vagina packed with iodoform gauze. To avoid infection, the bladder was emptied by catheter until the ninth day, and the patient was out of bed the next day.

As the attending physician was a careful and experienced obstet-

rician, it is probable that the accident was due to the pressure of the occiput against the symphysis on the one hand, and to the pulling down of the head by the forceps on the other.

Fæcal Impaction obstructing an otherwise Normal Labor.

J. M. POSTELLE (*Ibid.*) was called in haste by a midwife and a "quack doctor" to "bring instruments to operate." The patient, a primipara aged 17, had been in labor two days, and was greatly exhausted. Her attendants had diagnosed a "cross-birth, with knee presenting." Examination showed the rectum to be distended and impacted with a fæcal mass as large as a child's head. With some difficulty the presentation was made out to be a vertex with the cervix fully dilated. The mass in the rectum was broken up by the finger and a syringe nozzle, and removed by irrigation. Labor was concluded naturally and safely two hours later. Had she been left to her ignorant assistants, it is doubtful if she could have lived many hours longer, as her pulse and general condition showed great exhaustion.

GREAT BRITAIN.

A Case of Double Placenta.

W. H. NEALE (*British Med. Jour.*, December 3, 1898) was called to attend a multipara who was in labor with her tenth child. The cervix was fully dilated and the pains strong, but no progress was made. Accordingly forceps were used, and a healthy child delivered. After waiting an hour, with the hand over the fundus, for the delivery of the placenta, the writer inserted his hand into the vagina and found the placenta lying there, but it would not come away, the membranes being adherent to a mass within the uterus. The cord bifurcated into this mass. This mass was carefully separated and on examination after removal it was found that there were two distinct placentæ with sharply defined edges, nowhere united except by membranes. Vessels came from each half, and united to form the cord. The father of the child was a twin, but the mother had never borne twins.

A Case of Obstructed Labor.

LAWFORD KNAGGS (*The Lancet*, December 24, 1898) reports the case of a primipara admitted to the Leeds General Infirmary with the

following history. She had been in labor five days, at first under the care of a midwife; later a doctor had seen her and finding delivery impossible had sent her to the hospital. One leg of the fœtus had been pulled off in efforts at extraction. On examination the os was found high up in front, while a hard rounded mass occupied the hollow of the sacrum. The antero-posterior diameter was only $1\frac{1}{2}$ inches. There were large sloughing sores near the orifice of the vagina with a very offensive odor. Two smooth bodies could be felt through the abdominal wall, one the pregnant uterus, the other a solid, movable mass in the right hypochondrium.

The abdomen was opened by a median incision 12 inches long, and the uterus and the movable tumor lifted out. A pedicle passed to a second mass in the pelvis; this came out with some difficulty by traction on the pedicle. The uterus was opened and a putrid fœtus extracted. A serre-nœud was applied just above the bladder, and the neck of the uterus cut through $1\frac{1}{2}$ inches above the wire, a pin was passed through the stump, and the uterine mucous membrane touched with chloride of zinc solution (40 gr. to 1 oz.). The pedicle was fixed at the lower angle of the wound, the three parietal layers being separately attached to the peritonæal covering of the cervix. The incision was closed in layers, and the vagina washed out with carbolic solution.

The patient's pulse was 150 at the beginning of the operation, and hypodermics of ergotin, strychnia, and brandy were given during the operation. On the fifth day there was paralytic distention of the intestines, and severe vomiting; this lasted for three days. Then the patient became very restless, suffering from delusions. Three days later a large slough came from the vagina, and all fœtor ceased. The stump was cut away on the twentieth day, and two months from the date of operation she left the hospital perfectly well.

Repeated Ectopic Pregnancy.

HAIG FERGUSON (*British Med. Jour.*, December 31, 1898) read a paper before the Edinburgh Obstetrical Society, giving the history of a case on which he had recently operated. The patient had had two children, in 1891 and 1892, after which her menstruation continued regular until January, 1894. Four months later she had an attack of violent abdominal pain, chiefly on the right side, and was confined to her bed for some weeks. There was no history of blood-clot or membrane having been discharged. After this menstruation was regular until February, 1898, after which she missed two periods. On April 11th

she was seized with severe pelvic pain and retention of urine. A fluctuating swelling was found at the left of the uterus, which was enlarged and pushed aside. At the right of the uterus a fairly hard irregular body was felt. Abdominal section was performed on April 19th; as a characteristic tubal pregnancy on the left side was touched it ruptured, its sac and ovary were removed. The tumor on the right side was attached by a narrow pedicle to a dilated tube, filled with serum, and adherent to the fundus uteri. The mass proved to be a sac containing the bones of a four-months' fœtus. The tube and the right ovary, which was cystic, were removed together with the lithopædion sac.

CANADA.

Ectopic Gestation.

HARRY E. VAUX (*Canadian Jour. Med. & Surg.*, January, 1899) was consulted by Mrs. B., aged 43, for the relief of hallucinations and other evidences of mental disturbance. Her history was as follows: In 1884 she was pregnant. During the earlier months of the pregnancy she had occasional slight hæmorrhages. After the fœtal movements became vigorous they caused her excruciating pain, relieved only by morphine. At the time of her expected confinement all motion and all pain ceased. Menstruation was re-established and her usual household duties were resumed. At the time of consultation the fœtus could be felt through the very thin abdominal wall. On October 11, 1898, an operation was performed, and a lithopædion, contained in a pseudo-membranous sac was removed. The sac was so firmly imbedded amongst, and adherent to, the pelvic organs that it could not be entirely removed. The upper portion of the sac inclosing the fœtus was separated from the adhesions and removed; the mouth of the lower portion was sutured to the lower angle of the wound. The patient's recovery was uneventful, the temperature never rising above 100°. With the removal of the fœtus all hallucinations disappeared.

There was no history of rupture in this case, and it was probably a true abdominal pregnancy.

Removal of Hydrocephalic Head by Cæsarean Section.

F. G. RENSHAW (*New Orleans Med. and Surg. Jour.*, January, 1899) takes pleasure in recording his performance of "one of the most serious operations known to surgery, with all the unfavorable environ-

ments which usually attend such a procedure in an humble home." We also have taken pleasure in the account, and hasten to extend the same to our readers. The case is submitted—mercifully—"without reference to the history of *sectio Cæsaria*," although "retrospection confronts us with a vista radiant with the glitter of scalpel, hallowed by the science of antiseptics, shedding a luster of prowess on abdominal surgery, which gives to us the greater assurance; hence, bringing this operation within the scope of an elective rather than one always of necessity." We confess we are at a loss to decide just what is hallowed by the science of antiseptics, whether the vista, the glitter, or the scalpel; also, whether it is the scalpel or the science of antiseptics that is engaged in shedding the luster of prowess; we feel modestly certain that it must be the vista that gives the greater assurance; but we collapse again hopelessly in trying to decide whether we should give the glitter or the prowess the credit of bringing the operation within the scope of an elective, so that now one may virtually say to oneself, "Would I rather do (or have, as the case may be) a *sectio Cæsaria* or go fishing?" At all events the paragraph quoted is a metaphorical nightmare that we have vainly striven to exorcise; so we have concluded to pass it on in the hope that when some other brain is wrestling with the queries it arouses our own may be at rest. For this idea we are indebted to Mark Twain and his experience with "Punch in the presence of the passenjare"; and we hereby thank him, conditionally upon our success.

The case was a woman 32 years old, the mother of seven children. Labor had been in progress for several hours; the lower extremities and trunk were protruding, the shoulders were in the pelvic outlet (an unenlightened person would have expected to have found them in the kitchen), and the head within the uterus. The diagnosis of hydrocephalus was made and forceps applied, unsuccessfully. Pulsation in the cord had ceased and the body was, therefore, severed from the head as high as possible in order to gain room for manipulation; forceps were again applied, and later the blunt hook, but without result, as the large head was "firmly grasped by the uterus within its precincts"; we infer that this must have been somewhere near the city hall, for had the head been in the suburbs of the uterus it would probably have yielded. The writer therefore determined upon abdominal section. An impromptu operating-table was made ready and "the necessary illumination provided." What this illumination was is not explained, but we presume the writer simply utilized the radiant vista, the glitter of the scalpel, and the luster of prowess; with the contents of such a paragraph of mixed metaphor at his command it would seem hardly need-

ful to add the glimmer of ordinary light. The patient was then scrubbed and hallowed by the science of antiseptis, chloroform administered, and an incision made from a point $1\frac{1}{2}$ inches above the pubes to a point 2 inches above the umbilicus; the intestines were protected with hot towels, and the uterus incised for a distance of seven inches; the cranium was punctured and the collapsed head removed. Its bi-parietal diameter was $7\frac{1}{2}$ inches; the occipito-mental, 9; the occipito-frontal, $7\frac{1}{2}$. The placenta was removed with very little hæmorrhage, the wound irrigated with very warm water, the uterine walls drawn together with interrupted silk sutures, and the abdomen also closed with silk. After the operation, 9 grains of quinine were given daily, and twice a day the patient was hallowed by the science of antiseptis in the shape of a vaginal douche of 1-1000 bichloride solution; her temperature failed to rise on any occasion above $102\frac{1}{2}^{\circ}$, although she must have basked pretty continuously in the glitter and luster; at the end of some *ninety* days she has left the radiant vista, and has since been "enjoying excellent health." As a matter of fact, people usually do *enjoy* excellent health.

The writer says we might inquire why craniotomy was not resorted to. He says that his convictions of the crudity and danger of this measure force him to repudiate it, as he believes that modern antiseptis argues the clean incision as the elective procedure, where either pelvic contraction or a large head render the result of the application of forceps questionable to mother or child. It seems to us that it would have been a very simple matter in this case to puncture the head by the usual method through a suture or cranial bone, or, after amputation if necessary, through the foramen magnum, by means of a trocar and cannula or aspirating needle, thus evacuating the fluid, when the head would collapse sufficiently to allow easy traction. Of course this simple procedure would have lacked the glitter and luster of prowess of *sectio Cæsaria*. Or possibly the writer hoped the head might live, or wished, after delivery, to suture it to the body and attempt artificial respiration; but if this were his attention, why did he at last resort to puncture in its delivery through the uterine wall? It is all very puzzling. He speaks of the danger of puerperal septicæmia following craniotomy; but we are inclined to think that in a patient with an evidently normal pelvis, aspiration of the intracranial fluid, followed by extraction of the collapsed head even by forceps, would have resulted in a healthy puerperium of something less than ninety days. Also, he congratulates himself that the patient, through the employment of the abdominal method, escaped "the laceration and rents which entail

pain and displeasure, and even are deterrent at times to the exercise of the sexual instincts;" however, had the patient disappeared up the radiant vista of the golden stairs as a result of the *sectio Cæsaria*, it would have entailed still greater pain and displeasure and have been still more deterrent to the exercise of the sexual instincts.

PÆDIATRICS.

UNITED STATES.

Management and Treatment of Vaginitis in Young Children.

I. L. POLOZKER (*Phys. and Surg.*, November, 1898) has found 70 per cent. of his cases of vaginitis in children due to the gonococcus; it is usually innocently acquired from some other member of the household having gonorrhœa and being unaware of its modes of infection. Mothers are likely to neglect these cases till they reach a grade of considerable severity. Examination will generally show inflammation of all the mucous membranes of the region. Questioning the relatives is useless and the only way to decide whether the attack is specific is to examine the pus microscopically. The writer isolates the child and gives instructions that her washing be cared for separately. A tonic is prescribed, and vaginal douches ordered, of either bichloride, ichthyol, potassium permanganate, silver nitrate, boric acid, or some of the common astringents; about two quarts should be used two or three times daily. A warm bath is given every night. With these measures, however, the disease generally lasts five or six weeks. In several of his last cases the writer has put the patient to bed and used formaldehyde douches, two quarts twice a day, at first in the strength of 1-2000 and 1-1000. In the second case he used 1-500; this caused irritation, which, however, disappeared on adding glycerine to the solution, 1 ounce to the quart. Later he used a teaspoonful of formaldehyde and an ounce of glycerine to the quart of water. All the cases thus treated have been proven to be gonorrhœa, microscopically, and some of them clinically; in all the discharge was free from gonococci after the first week's irrigation—results impossible of attainment by any of the old methods.

The Recognition and Early Treatment of Myxœdema in Childhood.

F. BIERHOFF (*Jour. of the Amer. Med. Ass.*, November 19, 1898) reports several cases of goitre that presented some of the symptoms of myxœdema but in which growth had not been arrested. Cretinism, myxœdema, and goitre are probably variations in the same disease, the common cause being absence or disease of the thyroid gland; when the gland is absent we have true cretinism; when the changes occur early we have the cretinoid condition or early myxœdema; in adults, myxœdema, usually accompanied by reduction in the size of the gland. In all of these conditions, however, the size of the gland is no indication of its functional activity. An enlarged gland may be functionless; and the presence of a goitre may still leave enough of the gland unchanged to do its work.

The first case reported was a girl eight and a half years old. Examination showed a tumor of two-years' standing in the location of the thyroid, which measured $3\frac{1}{2}$ inches horizontally and 2 inches vertically; the left side seemed to be cystic. The child's hair was coarse and dry, and it had been noticed that her memory was somewhat impaired and that she played with other children less than formerly. Under about two-months' treatment with thyroid extract, the tumor disappeared entirely, but on stopping the treatment began to return. She now takes a half grain every second day, and has been for some months apparently perfectly normal. The maternal grandfather has a well-marked goitre. The second case, a Hungarian boy of eleven years, presented an appreciably enlarged thyroid, said to be of four-years' duration; after three weeks of thyroid treatment the gland was reduced to its normal size, when the patient passed from observation. The boy had no mental symptoms. His mother was goitrous. The third case was a girl fourteen years old. The skin of the face was myxœdematous, the mouth and limbs twitched, she slept poorly, was apathetic, did not care to play, was sometimes destructive, had a poor memory. speech was indistinct and stuttering; menstruation, which had been regular for two years, had ceased for three; the skin was thick and puffy, the hair dry and wiry. At the beginning of the change she had reached the next to the highest grade in the primary school, but as the condition developed she was gradually put back till she was finally sent home. Syphilis in the family was suspected and the child's teeth were of the Hutchinson type. Under the first month of treatment the thyroid enlargement disappeared. The child's mental condition has steadily improved; she

now reads a little, wishes to go to school, plays with her doll, remembers some things, and speaks more plainly. She has gained in weight and her physical condition has improved, though there is still much thickening of the skin. The writer considers these cases as variations in degree of myxœdema, which, if unchecked, would go on to pronounced myxœdema or the cretinoid stage, according to the age of the patient.

Ametropia and Muscle Imbalance in Young Children.

G. M. GOULD (*Penn. Med. Jour.*, December, 1898) considers of the greatest importance the earliest possible detection and correction of defective vision or imbalance of the ocular muscles; hundreds of eyes have been rendered functionless from uncorrected ametropia resulting in heterophoria, strabismus, and amblyopia. Also—equally important—the child's whole physical and mental well-being may be undermined. Many cases are cited, from which the writer draws the following conclusions: (1) Positive squint, easily detected by any one, needs immediate help to prevent permanent and fatal amblyopia. (2) By the cover-test beginning imbalance may be early detected. (3) By bandaging the good eye and observing the child it may be determined whether amblyopia exists in the other eye or not. (4) The earlier amblyopia, muscular imbalance, or high-degree amblyopia be discovered, the easier the prevention of serious injury; if the child be too young to wear glasses, temporary mydriasis or a blinder for the good eye may be employed. (5) When glasses are required they should be ordered much earlier than is supposed necessary or possible; the child will not only tolerate but welcome them.

Under What Circumstances do pushing down Pseudo-membrane and Occlusion of the Tube take Place in O'Dwyer's Intubation, and of What Importance are These Complications?

A. HAND, JR. (*Ann. of Gyn. and Ped.*, January, 1899), discusses the danger of pushing down membrane before the tube in intubation. Practically, this happens very rarely, though the writer always follows O'Dwyer's advice to be prepared for a tracheotomy in every case. The reasons why this seemingly likely complication so seldom occurs are (1) because the edges of the lower end of the tube are rounded and, with the obdurator properly introduced and retained, present a completely rounded extremity; (2) because thick pseudo-membranes of

much extent are extremely rare, while thinner membranes can pass through the tube so easily that their detachment is of little importance; (3) because thick membranes, when formed, generally have their origin below the vocal cords, so that the tube easily penetrates their lumen; still more is this the case if they happen to be attached to the cords; (4) because the ominous difficulty of breathing is not dependent upon the fibrinous exudate alone but to the subglottic swelling as well.

Obstruction of the tube is rare (1) because thick membranes are rarely extensive and thin ones can pass through the tube; (2) because if the croupous process does not rapidly descend, the fibrinous exudate may be dissolved by rational treatment and expectorated in the form of a slimy secretion.

Tracheotomy on account of danger to life from detachment of pseudo-membrane was rendered necessary in $3\frac{1}{2}$ per cent. of 498 cases gathered from the literature. This measure failed to relieve the asphyxia in only two of these cases, to the writer's knowledge, and in one of these the post-mortem showed croupous bronchitis and extensive pneumonia. Tracheotomy does not appear to be necessary in all such cases, however, as immediate extubation leads usually to the ejection of the loosened pseudo-membrane by violent coughing. In some cases the membranes were forced out by artificial respiration, in others by the coughing excited by the immediate administration of strong alcoholic stimulants. It is possible that many of the deaths in which it was supposed that the membranes were pushed down were due to apnoea from prolonged attempts at intubation or to asphyxia from forcing the tube through a false passage. Occlusion of the tube is also infrequent, and becomes dangerous only when immediate extubation is neglected; even in such cases spontaneous extubation often occurs, the tube and membrane being ejected simultaneously by a violent fit of coughing. Several cases have been reported in which large pseudo-membranes were ejected through the tube. Extubation has always been performed in the writer's hospital by means of the thread attached to the tube; this can, therefore, be done by the nurse or even by an inexperienced person, but the cases should be under constant supervision. Even granting that these rare complications may sometimes be fatal, intubation yet remains a much safer measure than tracheotomy.

Of O'Dwyer's short, large tubes, recommended by him for short periods in cases where there are undoubtedly detached membranes, the writer says that he has used them but a few times and that their introduction is most difficult.

Otitis Media, with Triple Personality.

A. J. ERWIN (*Jour. of the Amer. Med. Ass.*, January 7, 1899) questions whether any connection exists between the otitis media and the nervous symptoms in the following case. Briefly, the child, a girl aged eight years, had suffered from infancy till she was five years old with otorrhœa; three years later, following an attack of measles, a severe otitis media affected both ears; there was free exit for the pus and no indication of extension of the trouble. About the third day of the disease she began to have seizures in which respiration was apparently suspended and in which she could not speak; there were no convulsions nor unconsciousness, nor was the pulse much affected; as the attack passed off she would say, "I can't see, or hear, or feel." At first these seizures occurred several times a day; later, only on going to bed at night. The writer does not think them either epilepsy, petit mal, or syncope. About two weeks later the patient became to have attacks of double consciousness, later of triple consciousness. There is the normal self, Lucile, a bright, sensible girl, well advanced at school, and able to play the piano well. The second self, Imme, is a more vigorous girl, says she is four years old, and acts and talks as she did at that age. She has some acquaintance with Lucile, who she says does not like her; her reflection in a mirror she calls Lucile, She has no knowledge of the third self. She plays the piano like Lucile, but has no school knowledge; she reads, however, and her intelligence is improving rapidly. The third self, Dorothy, is a child just beginning to talk; she does not try to stand, but creeps, cries for her nursing-bottle, puts things in her mouth that she finds on the floor; she does not know of Imme or Lucile.

These three personalities are totally distinct, each having her own facial expression, language, and style. Lucile has no knowledge of Imme or Dorothy except what she has been told, does not like to hear of them, and thinks that she sleeps during their stages. The rotation of these selves is not regular, but changes occur much more frequently than at first, sometimes several times an hour. She will drop into a sleep, so suddenly that if she is standing she falls, and in a few minutes wakes suddenly as another one of the personalities. Each personality has memory of its own acts and experiences, but not of those of the others. The case cannot be hysteria, as the new self has none of the characteristics of that condition; nor insanity, as it is rational; nor delirium, as it has no frenzy or hallucinations. It is not hypnotism, for

the will is not in abeyance to the hypnotist; nor somnambulism, for the somnambulist deals only with current affairs. It seems necessary, therefore, to regard the case as an independent neurosis, its distinctive features being an involuntary reversion of consciousness to earlier mental states.

GREAT BRITAIN.

A Case of Spina Bifida Occulta.

P. MACLULICH (*Lancet*, December 24, 1898) remarks of spina bifida occulta that its essential characteristic is the presence of all the conditions necessary to spina bifida, except that its site is marked by a depression instead of a tumor. The case reported was a full-term female child, weighing seven pounds, born after an easy labor, foot presentation. Extending from the fourth dorsal to the second lumbar vertebra was a depression covered by a thin, glistening, bluish membrane, and having at its upper end a small fistulous opening that passed upwards and forwards. Otherwise the child was normal. She soon developed cervical opisthotones, tonic contractions of the arms and paralysis of the legs, and died on the fifth day. The post-mortem showed arrested development of the laminæ of all the vertebræ except the axis, the defect being most marked in the lumbar region; from the fourth dorsal vertebra upwards the neural arches were replaced by a dense fibrous band, which was entirely absent over the region of the external visible spina bifida but was found to reappear at the level of the second lumbar vertebra and to be continued downwards from this point; the fistulous tract communicated with the central canal of the cord. There was no posterior fontanelle and a very small anterior one, owing to the overriding of the cranial bones, which were also very firmly united by dense fibrous tissue. The vertebral column was rigid and presented well-developed curves in exactly opposite directions to those of an adult.

The Indications for Operation in Cases of Adenoid Vegetations of the Naso-Pharynx.

J. B. BALL (*Clin. Jour.*, December 28, 1898) reminds us that the pharyngæal tonsil is normally distinctly developed in childhood, atrophying with adolescence, so that it is sometimes difficult to determine at what point pathological enlargement begins; such cases we need not

consider here, but only what cases with marked enlargement demand operation. The most direct result of adenoids is interference with nasal respiration. The child may breathe through his mouth always or only at night; he may snore, or have disturbed sleep, night terrors or arrest of breathing for a few minutes. Many of these children certainly suffer from deficient oxygenation of the blood. Deformity of the upper jaw or of the chest may follow. Habitual mouth-breathing, therefore, even if it occurs only at night, would constitute an indication for operation; and especially so if there be any falling in of the lower part of the chest.

Many children with adenoids are subject to bronchial catarrh or to asthmatic symptoms, both of which conditions are frequently relieved by operation. Cough without bronchial complications is not uncommon; it may disappear of itself or under general treatment, but if it persist may indicate operation. Frequent colds, chronic nasal catarrh with profuse secretion, chronic purulent rhinitis, paroxysmal sneezing and hay fever symptoms, even the habit of snuffling or snorting, if other treatment fails, may be benefited by operation.

Deafness, chronic or recurring, frequent earaches and otorrhœa are often caused by adenoids of moderate size that do not give rise to other symptoms, and are, therefore, indications for operation.

Between dullness of intellect and adenoids there seems to be little connection. Many of these cases look dull without being so; real backwardness may be due to the deafness that is so often associated with adenoids, or may be a mere coincidence. At all events we cannot promise mental improvement as a result of the operation.

Trouble with voice or speech occurs only in cases so marked as to furnish other indications for operation. The general health and nutrition of the patient often suffer in severe cases, and may make us decide for operation in a doubtful case. But if the adenoids are not sufficient to give rise to other symptoms we can hardly hold them responsible for an unsatisfactory general condition.

Whatever the symptoms that favor operation, their duration and persistency should be considered. Many times the pharyngeal tonsil swells without discoverable cause, or after a cold or one of the infectious diseases. Such cases subside of themselves in a little time. The possibility of benefit from other treatment, such as tonics and sea air, must be borne in mind. The practice of teaching mouth-breathers to breathe through the nose is excellent and can do no harm in cases of moderate nasal obstruction; many can do it comfortably when taught; it is also sometimes desirable after operation. Once it is decided to

operate, the sooner the better; but in a patient of such an age that we may soon expect spontaneous diminution of the growth we may decide against operation, when the same symptoms in a younger child would indicate it.

In suitable cases much good results from the operation. Recurrence is possible but exceedingly rare after careful removal. We must be sure, however, by careful examination that the symptoms are really due to adenoids and not to some other condition (deflected septum, hypertrophied turbinals, etc.). It has been urged that the operation is harmless and that it should be done in all cases; but there is always slight danger (from the anæsthetic, from hæmorrhage, from suppurative otitis media, and from septic meningitis); and while these dangers are too slight to deter us from operating in cases where it is really indicated, they are real enough to be considered in the mild cases. Finally, there are a few maladies, such as nocturnal enuresis, chorea, and epilepsy, where we may, even without special indications, perform the operation with a view to removing every possible source of reflex irritation.

CANADA.

Therapeutic Suggestions for Children.

L. FISCHER (*Canada Jour. of Med. and Surg.*, January, 1899) directs attention to measures other than drugs, especially in cases demanding immediate treatment. In convulsions, though we seek the cause we may have to treat the symptom. If there be a history of an overloaded stomach we must get the organ as clean as possible by lavage with warm salt water. Meanwhile a mustard foot-bath and, if necessary, leeches over each mastoid process will relieve the cerebral hyperæmia. Sometimes it is a good idea to apply one leech to the *alæ nasi*, thus drawing the blood from the frontal sinus; the writer succeeded by this method in a case that had been having convulsions every half hour or oftener for three days, and to which large doses of bromide and chloral had been given. Flushing the colon is also of great value; a catheter should be used, the rectum washed first, then the catheter pushed six or eight inches into the bowel and the flushings continued till the water comes clean. The same procedure should be adopted before rectal feeding. Hypodermoclysis is a valuable measure not frequently enough resorted to. The writer has found it especially useful in long-continued attacks of summer diarrhœa in which the blood be-

comes dehydrated and almost thickened. In the case of an eight-months' child in whom exhaustion was extreme this measure was adopted, in addition to friction and hot-water bottles; a pint of normal saline solution was injected in the connective tissue of the abdomen; the pulse and circulation immediately improved and the child became brighter; the procedure was repeated, at first every six hours, afterwards every twelve hours, and the child ultimately made a good recovery. Rectal flushing is also of great value in constipation; and if a child has been all day without a movement an injection of a pint of a mixture containing two-thirds water and one-third glycerine should be given. Anuria may be often relieved by immersing the child in very warm water (105° to 110°), raising and lowering the child and continuing the bath for about one minute. If this fail dry cups may be applied over the lumbar region, two on each side for three minutes, and reapplied in an hour if necessary, choosing a different spot. The application of two dry cups to a child that had passed no urine for twenty hours caused him to void eight ounces almost immediately. Dyspnoea also, when due to intense pulmonary congestion, may be sometimes instantaneously relieved by the application of about six dry cups to the front and back of the thorax. Sometimes a sinapism applied to the front and back will work equally well, but it is best not to apply it to both front and back the same day lest the child be compelled to sleep on its sides. Flax-seed poultices serve their purpose best when the whole chest is enveloped therein and covered with oiled muslin. Hot-turpentine stüpes are very valuable in abdominal pains, especially those due to flatulence; also a cup of hot tea or peppermint tea. In atonic dyspepsia gentle massage of the abdomen with vaseline or lukewarm oil is one of the best means of stimulating peristalsis, and if persisted in will frequently remove long-standing constipation without the use of drugs. An ice bag over the anterior fontanelle or the nape of the neck, or the spinal ice-bag may be used as an antipyretic. The safest antipyretic in children is the cold pack; the sheet should be wrung out of cold water and applied to half the body at a time, or the chest and abdomen may be enveloped, the procedure being repeated every fifteen or thirty minutes. If this be not sufficient we may immerse the child in a bath at 90° , rapidly cooling the water with ice to a temperature of 75° ; the child should be constantly rubbed and the bath should last from two to five minutes. The writer considers *no* drug known as an antipyretic safe in children. Under the heading of pulmonary gymnastics the writer cites the case of a child of twelve that has been under his observation for five years. She suffered from frequent epistaxis, general

malaise, chills and fever, but nothing abnormal could be found, except hæmic murmurs. Hygienic treatment was instituted, consisting of proper ventilation and exercise and she was directed to make slow, deep inspirations followed by short expirations for a period of one hour three times daily. A concentrated liquid diet was ordered with cod-liver oil and creasote. Latent tuberculosis was suspected as the patient had a dry cough and did not gain in weight, and this diagnosis was confirmed later by the coughing up of a large amount of expectoration containing tubercle bacilli. Treatment was persisted in and the patient now coughs but little, is fairly nourished and the expectoration shows no bacilli; so that the writer thinks this case may be considered one of cured tuberculosis.

Club-Hand.

B. E. MCKENZIE (*Ibid.*) remarks the little attention given to club-hand compared with that bestowed on club-foot, and reports a series of cases of the former. It may be acquired, but more commonly is congenital. The first case, eighteen-years old, presented, as a result of right-sided paralysis following cerebral traumatism, a much-atrophied right arm with contracture of the flexors at both elbow and wrist; the hand was held at a right angle with the arm and the fingers were flexed in a hook-like shape. The flexor tendons were thought to be too short to unite if cut, so the wrist was excised and the hand placed in line with the arm, leaving the fingers as they were. Sloughing from pressure, with an infective osteomyelitis, resulted, but the sequestrum has been removed and the parts are now healing in good position. In the second case, eight years old, the hands were flexed on the wrists at an angle of 120 degrees, the fingers hyperextended at the metacarpophalangeal joints and flexed at the inter-phalangeal joints. There was also strongly marked talipes equino-varus. The deformities were no doubt due to a congenital intracranial lesion, but, though the boy was perfectly bright, he had so little power over the fingers and hands that it was not deemed wise to attempt correction except by manipulations and massage. The third case, one-year old, was born with the right hand and part of the arm tucked under the inferior maxilla on the right side, leaving a depression in the neck that did not disappear for several months. The right radius was absent, the hand deflected toward the radial side, the carpus articulating with the radial aspect of the lower end of the ulna. The thumb, attached only by a slender thread of tissue, was removed at birth. The two fingers toward the

ulnar side were the more perfectly formed, though the other two were complete in their skeletal elements. The hand was pulled over toward the ulna, and all tendinous and ligamentous bands thus put on the stretch were divided subcutaneously, and the hand secured in a fixation splint. When a year old, an incision was made over the lower end of the ulna, this bone set free, and one of the median bones of the carpus removed to make a cup for the reception of the ulna. Strong silk was passed over the end of the ulna and deep into the carpus but had to be subsequently removed. A fixation splint was applied. The hand is now nearly in line with the arm, there is motion of the new joint and function is gradually improving. Case Four was without right radius or thumb, the hand strongly deflected from the ulnar side; function of the ring and middle fingers was much better than that of the others. Three-fourths of an inch were removed from the end of the ulna, the hand deflected toward the ulnar side and secured. One and a half years afterward the position of the hand was much improved and the child used it freely. Case Five was a child six-months old with absence of both tibiæ and of the left ulna; here the thumb and index fingers were well developed and had good function, while the other digits were absent; only two metacarpal bones and the radial portion of the carpus were present. Operation was thought in advisable; at two years the child was using the hand only moderately, due no doubt to the elbow defect. The sixth case, a boy of twelve years, born with an occipital meningocele, had absence of both radii, the hands articulating with the lower ends of the ulnæ on their radial aspect at angles of 80 degrees, the ulnæ projecting downwards so as to form acute angles with the ulnar borders of the hands. Both thumbs were absent; the ulnar digits were better developed and had better function than the radial. The right index finger was so distorted as to require amputation. Then all restricting tendinous and ligamentous structures in the angle between the hands and arms were cut subcutaneously and the hands forcibly extended and maintained; subsequently massage was employed and function improved, but opportunity for recent examination has not been afforded. The ætiology of these cases is obscure; they are usually regarded as due to amniotic adhesions. It is evidently sometimes, however, abnormal position and consequent intra-uterine pressure, as in Case Three. This influence was also shown in a case of another kind, previously reported by the author, in which there were defects of the third, fourth, and fifth ribs of the left side, with skeletal defects of the left hand, and in which it was found that the left hand could be perfectly fitted into the thoracic defect. The amniotic theory

also fails to explain why in the case of two long bones, as the fibula and tibia, one is defective when the other is well developed. Doubtless different cases require different explanations.

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MYOMECTOMY BY A NEW METHOD.*

BY ALEX. J. C. SKENE, M.D., BROOKLYN.

Having adopted the methods presented by the pioneer myomectomists, I adhered strictly to their ways of operating until three years ago when I began to remove uterine myomata without using ligatures or sutures; but whether the change in practice has led backward or forward I leave for you to determine. The fact is I have never had full confidence in any of my work until endorsed by those in the profession whose judgment is desirable.

The title of the paper is rather pretentious and misleading in view of the fact that it is limited to a discussion of both the treatment of adhesions of uterine myomata to pelvic and abdominal viscera and also their removal according to their attachment to the uterus, by a method which is new, so far as I know.

Young, non-vascular adhesions are so easily managed that they may be passed unnoticed on this occasion. The difficulties and dangers which obtain in the management of old vascular adhesions are, as you know, in separating them from the tumor to be removed without injuring the abdominal or pelvic viscera to which they are attached; to arrest the hæmorrhage which is often quite free; to treat the raw surfaces left after the separation in such a manner that they will not form secondary adhesions which are sometimes dangerous and always less or more annoying, and, finally, to guard against absorption of septic material through solutions of continuity of the peritonæum.

I presume that all surgeons agree that raw surfaces left in the pelvic or abdominal cavity are objectionable owing to their disposition to form

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adhesions and to the oozing of bloody serum which takes place from the exposed tissues even though all active bleeding has been arrested. As a matter of fact this serous transudate can be disposed of by drainage, but that is an acknowledgment on the part of the surgeon that his operating has been imperfect. Moreover, drainage may protect patients from septic infection, but the ultimate results are unfavorable in that it increases the tendency to secondary adhesions, delays the healing of the abdominal wound and predisposes to ventral hernia, therefore it should be avoided when possible.

I have endeavored to overcome these difficulties in abdominal surgery by using the hæmostatic forceps to control bleeding from adhesions and to cover up the raw surfaces with peritonæum when possible, or, when they cannot be closed, to so treat them that there will be no oozing and no disposition to form adhesions or to absorb septic matter.

Adhesions of the Omentum.—Old adhesions of the omentum are generally very vascular. Indeed, it often happens that the vessels of the omentum are greatly enlarged and require many ligatures, and strong ones at that, to control them. In that condition the hæmostatic forceps is used, and when all the vessels in its grasp are closed, it is removed and the portion of the omentum so treated is divided in the middle. This not only controls the bleeding from the omentum but also from the stump left on the tumor, thereby avoiding the need for the application of pressure-forceps necessary when a ligature is used. This method has also been found convenient and efficient in treating adhesions of a fat omentum. Quite recently I encountered an omentum more than an inch in thickness and extensively adherent to a uterine myoma, a condition which I had before encountered and in which I found difficulty in controlling bleeding with a ligature, but with the use of the hæmostatic forceps in this instance the fatty tissues gave way and left only the vessels to be closed with the pressure-forceps.

Intestinal Adhesions.—Bands of adhesions extending from a portion of the intestine to the tumor are easily managed by applying the forceps between the two and using a shield to protect the intestine from the heat of the forceps, but it is seldom that such favorable conditions are found. Usually the intestine is closely adherent to the tumor and the vascularity is excessive. In that condition one is obliged to dissect off a portion of the capsule of the myoma which should be larger than the area of the adhesion. To do this it is necessary to make the incision some distance away from the adherent part so as to leave material enough to close in the raw surface without constricting the intestine. This dissection is not always easy. Owing to the vascularity which is

usually great there is much active bleeding which can only be partly controlled by the assistant making pressure on the vessels in the tumor and by the operator holding the separated part in his fingers or pressure-forceps. The separation being completed the two sides of the capsule left attached to the intestine are brought together and grasped with one or more hæmostatic forceps, compressed and dried with the electric heat. This accomplishes the two objects of controlling the bleeding completely and at the same time fusing the two sides of the peritonæum or capsule together and thus closing in or covering over the raw surface. Formerly I found it necessary in such conditions to ligate the large vessels and close in the raw surface with a continuous suture, and the results were not always entirely satisfactory. There was generally some bleeding from the needle punctures and small vessels that had escaped the pressure of the ligatures or suture.

Separation of the Tumor from the Uterus.—The method of separating a myoma from the uterus varies somewhat in detail according to the character of its attachment. In pedunculated tumors when the pedicle is small and long enough and is composed of capsule only, the hæmostatic clamp or forceps is applied until the necessary desiccation of the tissues is obtained when the tumor is cut away. Sessile tumors and those having a short, broad pedicle are managed in the following way: A circular incision is made through the capsule high enough upon the tumor to leave sufficient tissue to cover the exposed part of the uterus and form a stump. The portion of the tumor adjoining the uterus is enucleated by stripping off its capsule. As the capsule is being separated from the tumor its free borders are grasped with compression-forceps to control temporary bleeding. Having thus removed the tumor the stump of the capsule is opened to see if there is any hæmorrhage from the exposed portion of the uterus on which the tumor rested. Bleeding at this point is arrested by applying the hæmostatic dome, hot enough to dry the tissues, but not to char them. The capsule is then gathered together and seized with the hæmostatic forceps close to the uterus, compressed and heated sufficiently to thoroughly close the vessels and fuse the tissues together and form a dry stump an eighth to a sixteenth of an inch thick. It is usually difficult or impossible to apply the ovariectomy clamp or a straight forceps to the pedicle in question, so I had a forceps adapted to that purpose. It was copied from a French instrument obtained in Paris by my friend, Dr. John Byrne. It is so constructed that the blades open and close parallel, which is a great advantage. Projections at the ends of the jaws were added to keep the tissues from spreading under pressure. The pressure

at the distal end of the jaws is not sufficient in all cases but can be supplemented by using strong compression to increase the pressure to the required degree. The same result can be accomplished by applying the forceps until one side of the pedicle or adhesion is sufficiently treated, then taking it off and re-applying it from the other side. I may state in passing, that this instrument is employed in doing vaginal oöphorectomy and was first intended for this purpose.

Adhesions Down in the Pelvis.—Adhesions deep down in the pelvis sometimes found in impacted myoma or in conglomerate tumors in which one nodule dips down into the sac of Douglas, can be separated if they are recent by a dry dissector; but old and vascular adhesions are more safely and easily treated by incising the capsule at the brim of the pelvis and enucleating. The hæmorrhage from the large vessels is arrested by a long-handled hæmostatic forceps and the general oozing stopped by the application of the dome instrument.

If one is not careful there is danger of injuring the ovaries, tubes, or intestine while closing vessels down in the pelvis, and yet by keeping the wound open and holding the viscera out of harm's way with sponges or towels, all that is necessary can be accomplished safely, with the patient in the Trendelenburg posture. It may happen in spite of extra care that an ovary or loop of intestine may escape from the protecting hand of the assistant and touch the instrument, but if it is instantly removed no harm will be done. The temperature of the instrument is not high enough to injure the tissues during a short contact.

In this way and by this method I have succeeded in a satisfactory manner in removing uterine myomata of the varieties referred to and am inclined to believe that the procedure is practical and worthy of a trial in all cases except interstitial tumors. I do not see at present how it could be employed in removing myomata from that situation.

I now invite your attention to the history of a case of myomectomy in which I employed both methods, the old and the new, of treating the attachments. The case was of especial interest to me and I hope it may be to you because of an extensive adhesion of the mesentery to the tumor, a condition I have never seen or heard of before. A mixed treatment was employed; that is to say, the pedicle and some of the adhesions were treated with the hæmostatic forceps, but the extensive adhesion of the mesentery required many ligatures and sutures. The character of the peculiar adhesion, the treatment, and the results are taken from the history of the case in the hospital records.

A spinster, 35 years of age, under-sized, poorly nourished and anæmic though her appetite and primary digestion were normal.

Menstruation normal but rather profuse for one of her size and condition. Five years previously she noticed a tumor in the abdomen. During the first four years the tumor slowly increased in size, but during the last year it grew quite rapidly. When first examined the tumor extended three inches above the umbilicus, filled the whole of the lower part of the abdomen, and projected well forward. The general form of the tumor was globular but the surface was made up of nodules about the size of walnuts with well-defined sulci between them. The uterus was about four inches in its long diameter and united to the tumor by a rather small pedicle. On the right side of the fundus uteri two solid masses were found, one closely connected with the wall of the uterus and the other pedunculated. These small tumors were not connected with the larger one. There was slight mobility of the lower portion of the tumor and uterus, but it was fixed above and behind and free from the abdominal wall. At the upper anterior side of the tumor a large portion of intestine was apparently adherent. A diagnosis of pedunculated myoma was made. A suspicion of some possible malignant complication was entertained because of the marked irregular nodulated character of the tumor, extensive adhesions, its rapid growth, and the general malnutrition not accounted for by any accompanying disease of the nutritive system.

Exposing the tumor by cœliotomy the mesentery was found adhering to about one-third of the whole surface of the tumor. The adhesions were very firm, dipped down between the nodules and were so vascular that their management promised to be difficult. On this account it was determined to separate the tumor from the uterus so that the adhesions could be more easily reached. The pedicle of the tumor was found and treated with the hæmostatic forceps and divided. The separation of the adherent mesentery was undertaken and proved to be a difficult task. It was evident that the capsule of the tumor should be dissected off and left on the mesentery in order to avoid doing damage to the lacteals and mesenteric glands. By making the dissection from above and below and applying pressure-forceps to control the bleeding the separation was completed, but in an imperfect way. The portion of the tumor capsule removed was ragged and not sufficient to permit of the use of the hæmostatic forceps to arrest the bleeding and close in the raw surface of the mesentery. The largest vessels were ligated and the peritonæum from each side of the mesentery was united with a continuous suture. Care was taken while using the suture not to injure the lacteal ducts or the glands, but I fear I was not quite successful in this.

The two small myomata were removed in the way already described. There was considerable shock which was soon relieved by the ordinary treatment. Thereafter the progress was, for a time, remarkably favorable. No one unfavorable symptom appeared, she took nourishment freely and was comfortable and cheerful and recovery seemed probable. On the evening of the eighth day abdominal pain came abruptly; the pulse and temperature ran up and acute peritonitis was developed. All efforts to support her failed and she died on the ninth day. Post-mortem examination revealed a perforation of the intestine at the point where the adhesions had been. The perforation was probably due to cutting off the blood supply which led to necrosis. The mesentery was infiltrated with reparative exudate and many of the lacteals were damaged or obstructed. The stumps of the pedicles treated with the hæmostatic forceps were reorganized and in a perfectly healthy condition.

This is the only time that I have seen in the human subject the results post-mortem of treatment by the method under discussion, and I dare say that comparing the old with the new, the latter has advantages.

GENERAL PRINCIPLES, INDICATIONS AND CONTRA-INDICATIONS OF MECHANICAL SUPPORT FOR UTERINE DEVIATIONS.*

BY E. C. DUDLEY, A.M., M.D.,

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The Principles of Mechanical Support.

This discussion is limited to non-surgical treatment and therefore excludes the numerous mechanical operations, such as perinæorrhaphy, colporrhaphy, and hysteropexy.†

The title of this article is not to be taken in a restricted sense, inasmuch as the uterus is anatomically so connected with adjacent organs that the displacements of the uterus cannot be intelligently considered or satisfactorily presented without incidentally at least taking into account the displacements of the ovaries, Fallopian tubes, rectum, vagina and bladder. However, it conforms to usage and is, therefore, convenient to treat the subject of displacements of the pelvic organs under the heading, "Uterine Displacements." At the same time it must be further held in mind that a uterine deviation may not be the essential factor in the morbid sequence; on the contrary, it may be only an incident. Since the subject properly includes the displacements not only of the uterus, but of all the pelvic organs, it must also embrace the relations of the displaced organs to one another, and must involve a consideration of such associated lesions as inflammations, tumors, traumatisms and congenital defects. These associated lesions may be a cause or result of the displacement or they may be a concurrent result of some common cause or they may have no essential relation with it.

The importance of a distinction between location and position will become apparent hereafter; by the former is meant situation of the organ regardless of its attitude; by the latter is meant the attitude alone. To change an object from one place to another is to change its location; to turn it over or to bend it upon itself is to change its position. Let us first consider the

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† In the preparation of this paper I have made numerous quotations and adaptations from my own writing without giving credit.—E. C. D.

Normal Position of the Uterus.

In the works on anatomy and gynæcology which we are accustomed to consult, the uterus is wrongly represented as having a straight or nearly straight canal—as lying midway between the symphysis pubis and the hollow of the sacrum, its axis corresponding to that of the pelvic inlet. They generally agree that its position is one of slight, and only slight, anteversion; some admit that slight anteflexion may not be injurious, but most would pronounce the organ anteverted or anteflexed to a degree that would endanger health, if by digital examination its anterior wall could be felt through the anterior wall of the vagina. The classical idea of the normal position of the uterus wrongly presupposes a distended bladder and rectum occupying the anterior and posterior thirds of the pelvic cavity. Such an arrangement would leave for the uterus only the intermediate middle third and would constitute a condition seldom or never realized in health.

In order to arrive approximately at a normal position for the uterus, let us suppose a straight line coincident with the vesico-vaginal wall, to be continued through the cervix to the sacrum. This line represents approximately the antero-posterior diameter of the pelvis. The length of the vesico-vaginal wall is two and one-half inches, and, supposing the cervix to be just midway between the symphysis and the sacrum, the distance from its posterior wall to the sacrum must also be two and one-half inches. Add to the sum of these two parts of this antero-posterior diameter one inch for the cervix, and the antero-posterior diameter of the pelvis becomes six inches instead of the normal four and one-third. This absurdity proves that the cervix must be normally much nearer to the hollow of the sacrum than to the symphysis. Since the length of the vesico-vaginal wall plus the diameter of the cervix measures three and one-half inches, it follows that the distance from the posterior wall of the cervix to the hollow of the sacrum must be the difference between four and one-third and three and one-half inches, or about five-sixths of an inch. These measurements are only approximate. We know that when the cervix is normally near the vertebræ the sacrum arches forward over the normally placed uterus so that its body cannot turn far backward into retroversion without being arrested by the sacrum. Any excessive backward change in position clearly necessitates a corresponding forward movement of the cervix; this would bring the long axis of the uterus into co-incidence with the lower axis of the vagina and furnish thereby the essential conditions

for descent. It is clear that if the normal location of the cervix is near the sacrum the normal position of the uterus must be one of anteversion.

A study of the normal location and position of the pelvic organs presupposes an empty bladder and rectum. The angle of about 90° which the cervix forms with the vagina measures the normal forward inclination of the cervix, but in consequence of the physiological movements of the uterus this is subject to wide variations. The corpus is furthermore bent forward upon the cervix, so that its anterior surface rests upon the empty bladder. The angle of the normal ante flexion, according to careful measurements by Schultze, is about 48° ; Fritsch says 90° is the physiological limit. The question might be further considered under the subject of pathological ante flexions.

Normal Movements of the Uterus.

Strictly, the uterus can have no absolute normal position or location, because it has a certain normal range of movements which depend to some extent upon respiration, intra-abdominal forces and locomotion, but more especially upon the varying quantity of material in the rectum and bladder. Its normal position, then, varies within the limits of its normal movements. If the body of the uterus rests upon the bladder it must rise as the bladder becomes distended and, conversely, if the urine be drawn through a catheter even though the woman is lying on her back, the uterus, notwithstanding the opposing influences of its own weight, immediately follows the receding wall of the bladder and returns through an arc of 45° , or possibly even 90° , to its accustomed position.

The full rectum forces the uterus in the opposite direction, toward the symphysis, and thereby counteracts the influence of the full bladder. This anterior movement is, however, somewhat limited and is confined to the cervical portion, except when the body has been forced back into close proximity with the rectum by the overdistended bladder.

Normal Supports of the Uterus.

The uterus is maintained within its normal range of movements by the pelvic floor of which the uterine ligaments are an essential part.

The uterine ligaments are physiologically in a state not of tension but of relaxation; the state of tension would be pathological; they do not fix the uterus; they only tend to limit its movements to their normal

range and may, therefore, be likened to the rope which holds the ship to the dock. Backward displacement of the body is resisted by the round ligaments, backward displacement of the cervix by the utero-vesical ligaments and by the vesico-vaginal wall. Forward and downward displacements are resisted by the utero-sacral ligaments, and excessive lateral motion by the broad ligaments. This restraining power is doubtless greater in the utero-sacral than in any of the other ligaments.

In the first degree of descent the cervix uteri is displaced downward and forward sufficiently to give radial distance and permit the body to turn back into retroversion; as already stated, the organ in its normal location cannot retrovert because in so doing it would impinge upon the bony sacrum. As a consequence of the first degree of descent there are two significant possibilities: first, as the uterus falls to a lower level, where it would crowd upon and irritate the bladder, its long axis usually changes so as more and more to conform to that of the vagina, the cervix moves forward towards the pubes and the corpus backward towards the sacrum, that is, it turns back away from the bladder into retroversion; this is as if the irritated bladder, in the protection of its own right and territory, had thrown it back. On the other hand, instead of turning back into retroversion, the location of the uterus may simply change to a lower level, while the position remains the same, that is, the organ, still retaining its normal position of anteversion and anteflexion, may only settle to a lower plane. The corpus must then occupy space which belongs to the bladder and must mechanically irritate that viscus. The normally anteverted and anteflexed uterus in such descent is much more palpable to digital examination, and for this reason the vesical irritation, consequent upon the descent, has often been wrongly attributed to the anteversion and anteflexion. In this way has arisen much confusion in the effort to draw the line between normal and pathological anterior positions. The prompt relief which follows permanent replacement of the organ upward to the normal location even though in so doing its anteversion be exaggerated, proves that such symptoms depend upon the mal-location of descent and not upon the anteversion. The importance of a clear distinction, therefore, between location and position now becomes apparent.

Another cause of vesical irritation is the dragging of the uterus upon the neck of the bladder. This traction occurs not only in ascent, but also when the organ descends below a certain level. In the attempts, therefore, to raise the depressed uterus, one should avoid lifting it above the health level.

We have seen that the first change in the genesis of backward deviation is descent; hence, the principles of mechanical treatment for the backward displacements must be substantially the same as for descent. If we are right in the proposition that the vesical symptoms usually attributed to anteversion and anteflexion are due not to the forward position which is really normal, but to the descent, it would follow that many cases which have been wrongly diagnosed as pathological anterior deviations are in reality cases of descent and if treated mechanically should be treated as such. Experience has shown, furthermore, that the anterior position even if excessive and beyond normal limits and therefore pathological does not necessarily give rise to symptoms. The fact that relief may often be obtained by the use of a pessary which forces the cervix upward and backward and thereby increases an anteversion proves that the discomfort came not from the anteversion but from the descent. It is perhaps now generally admitted that the symptoms usually attributed to anterior displacements are due not to the displacements *per se* and that if not due to an associated descent they are usually due to inflammatory complications or to tumors.

From the foregoing we may declare that the mechanical treatment of both anterior and posterior deviations in the vast majority of cases is identical in principle with the mechanical treatment of an associated descent.

The function of any means of mechanical support is to maintain the uterus not only on the health level in its normal location, but also, if possible, in its normal position. This requires the cervix to be about one inch from the sacrum. The cervix in a suitable case being thus properly placed, retroversion is not liable to occur, because in so doing the fundus uteri would encounter the sacrum, and because the direction of least resistance would be forward into the normal anterior position. We are now prepared to announce the great general principle of mechanical support as follows: *If the cervix be normally placed within an inch of the hollow of the sacrum the body of the uterus will in the absence of complications, usually take care of itself.* Since the vagina at its upper extremity is attached to the cervix, displacement of the latter is clearly impossible if the upper extremity of the vagina be sustained in its normal location. The pessary restores and maintains the relations of the relaxed vaginal walls by crowding the posterior vaginal cul-de-sac upward and backward into the hollow of the sacrum. It also holds the attached cervix within a proper distance from the

sacrum and thereby fulfils its indication by giving support to the pelvic floor.

The Hodge pessary, or some modification thereof, answers this purpose in ordinary cases more satisfactorily than any other. Its special function is to supplement the inadequate utero-sacral ligaments.

Indications and Contra-indications for Mechanical Support.

In complete prolapse dependent upon extensive injuries to the perinæum and other parts of the pelvic floor, and associated with extreme subinvolution and relaxation of all the pelvic organs, the axis of the vagina is changed from its forward oblique to the vertical direction. The downward traction of the prolapsing cystocele and rectocele upon the fornix of the vagina may then be so great that the ordinary pessary is inadequate to maintain in place the upper extremity of the vagina. The cervix then moves forward, the corpus turns back, and the whole uterus easily descends in a vertical direction along the prolapsing walls of the vagina to the second or third degree of prolapse. In this condition pessaries which disappear within the vagina are liable to be forced out with the prolapsing pelvic floor, or, if retained, seldom maintain the uterus in position. In such cases the various cup pessaries, which are supplied with external attachments and abdominal belts are often used, but they either so fix the uterus as to prevent its normal movements or hold it in such unstable equilibrium that it may assume any one of the various malpositions, anterior, posterior or lateral; they are open to the further serious objection of constantly reminding the patient of their presence and for these reasons are not approved. Pessaries of this class, however, are permissible in cases of complete prolapse, when the patient refuses surgical relief. As an expedient the uterus may sometimes be held within the pelvis by means of a large Albert Smith pessary, with extreme uterine and pubic curves; a more rational indication, however, would be: first, an operation on the anterior vaginal wall to restore the fornix of the vagina to its normal place in the hollow of the sacrum, and with it the attached cervix; second, another operation on the vaginal outlet to bring the posterior vaginal wall up in contact with the anterior, and thereby to restore the lower extremity of the vagina, together with the perinæum, to its normal place under the pubis.

The pessary is always contra-indicated until the uterus has been replaced. Failure of replacement will cause it to press upon the sensitive uterus and one of three unfortunate results may occur: (a) the

pessary may not be tolerated on account of pain; (*b*) it may be forced down by pressure from above so near to the vulva that it will fail to do the least good; (*c*) the uterus, finding it impossible to hold its position against the pessary, instead of taking its proper position may be bent over it in exaggerated retroflexion, with the cervix between the pessary and the pubes, or the whole organ may slip off to one side of the instrument into a malposition more serious than the one for which relief is sought.

A properly adjusted pessary gives to the patient no consciousness of its presence. If the instrument causes pain it should be removed and search made for the tender places; it should then, if possible, be remoulded into such shape that it will not make pressure upon them. Often a slight indentation at some point will enable the patient to wear it with comfort. If it cannot be made comfortable it is contra-indicated and should be abandoned.

Under the principle already declared, mechanical support is enormously simplified and the multiform variety of pessaries must take their places in the ancient history of the subject. If relief is not obtained by an instrument which holds the cervix near the hollow of the sacrum, mechanical support is, generally speaking, contra-indicated. Pessaries designed to prop up the body of the uterus by pressure upon the posterior wall for the correction of the posterior malpositions, and upon the anterior wall to correct the anterior malpositions, are not only unnecessary but are very liable to produce metritis and perimetritis and are therefore generally disapproved. Objections equally strong may be urged against pessaries which hold up the uterus by distending the vaginal walls and against all pessaries having external attachments. In certain cases, however, the vaginal walls, especially the posterior, may be so relaxed from subinvolution and other causes that the instrument, though very long, fails to maintain the cervix in its normal position. Under such conditions, though wrong in principle, a pessary which acts directly upon the uterus may possibly be excused in practice. The Schultze sleigh pessary fulfils this indication. A long Albert Smith pessary with its uterine curve made so extreme as to bring the upper part of the pessary in front of the cervix instead of behind it may answer the same purpose. Expedients of this kind, however, are always of doubtful value.

The intra-uterine stem-pessary is a good thing to watch. It is rarely useful, often injurious, always dangerous.

The indication for mechanical support is proved by the following experiment which may be tried in a suitable case of descent. Measure

the length of the uterine canal, it will be found perhaps an inch longer than normal. Replace the uterus and hold it in with a pessary. In fifteen minutes measure again and find the canal very materially shortened and certain symptoms of weight and dragging relieved. The pessary, by restoring the organ to the health level, has relieved the congested vessels, lightened the organ and removed the symptoms. Remove the pessary and the former condition will recur.

In conclusion the enthusiast in mechanical gynæcology should consider less the mere fact of the displacement and more the essential pathological basis of the lesion. A fact is not a diagnosis. In the majority of cases of displacement the essential factor is inflammation. The resultant tenderness may render mechanical support intolerable. Adhesions and cicatricial bands may prevent or prohibit replacement and, therefore, contra-indicate the use of any means designed to hold the organ in place. A tumor of the uterus, of excessive weight, may carry the corpus backward and downward with a force greater than any pessary can counteract. The pelvic floor, including the fascial and ligamentous supports of the pelvic organs, may, from subinvolution or other cause, be so relaxed that no supplemental pessary can hold the organ in place. Pyosalpinx and ovarian abscess may, if exposed to the pressure of a pessary, furnish the material for a fatal peritonæal infection.

It follows from the above that the field for the use of a pessary placeable, in which the pessary is capable of holding them in place and placable, in which the pessary is capable of holding them in place and can be worn without discomfort. Failure to recognize and appreciate the contra-indications accounts not only for the failures and disappointments, but also for the many evil results which have followed the indiscriminate attempts to treat all displacements by mechanical support. The recognition of the necessity for accurate diagnosis and the exclusion of unsuitable cases are apparent, and the pessary, according to the knowledge, judgment and mechanical skill of the practitioner, will be useful, useless or injurious.

Let us further remember the significant fact that in very many cases of displacement the usual symptoms are absent or should be wholly attributed to associated lesions; in such cases mechanical support is clearly contra-indicated. However, after excluding all unsuitable cases there will remain a clearly defined class, not large, in which mechanical support is not only permissible but the only measure which can take the place of unnecessary formidable operations that without it might be the only and often-dubious alternatives to unrelieved suffering.

No man can safely apply the pessary until he has fully appreciated its indications and contra-indications. Many practitioners are deficient in the natural mechanical skill necessary to its proper adjustment. Of this thousands of unfortunate women bear witness. Its dangers in inefficient hands are in striking contrast with its usefulness when judiciously employed in proper cases. The misguided practitioner should bear the burden of his own fault; the pessary should not be made to do so for him.

ELECTRICITY IN THE MECHANICAL TREATMENT OF MALPOSITION OF THE UTERUS.*

BY FRANKLIN H. MARTIN, M.D., CHICAGO.

From the nature of the physiological effects of electricity its application to the treatment of malposition of the uterus is necessarily somewhat limited. However, there are at least two well-marked indications for treatment in malposition of the uterus which are preeminently fulfilled in the physiological effects of electricity when the remedy is properly administered.

These two effects need not take into consideration the electrolytic or chemical action of electricity and, therefore, the continuous uninterrupted galvanic current need not be considered. The physiological effects in which we *are* interested are obtained by an interrupted galvanic current, an induced current, or the sinusoidal current. The best effects are obtained by the two latter, the induced and the sinusoidal, and each should have automatic regulators which will make the interruptions or sinuosities slow or fast.

The effects we seek from these mechanisms are: first, their power to contract striped and unstriped muscular fibers, and second, their power to stimulate the nutrition of any part of the body through which they act.

These two effects can be absolutely demonstrated in a physiological laboratory any day by observing muscles subjected to tests, and by making quantitative tests of the products of organs when acted upon by these currents. These two effects obviously meet two important indications in the treatment of displacements.

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The faradic or sinusoidal is especially valuable in first, simple retroversion without adhesions, without severe laceration of the recto-vaginal septum, without cystic disease of the appendages, in which the uterus is movable, or at least can be replaced under anæsthesia, and which can be temporarily supported in proximate normal position with a Hodge-Smith pessary. Second, acute antelexion of the uterus in non-developed or infantile uteri in which the principal symptoms are dysurea and excruciating, obstructive dysmenorrhœa.

Treatment of Simple Retroversion.

My method of treating an uncomplicated retroversion by electricity is as follows:

I carefully replace the uterus by bimanual manipulation from vagina and abdomen. If the organ resists my attempts to replace it from the vagina, I transfer my index finger from the vagina to the rectum, as frequently an impacted uterus will yield from this pressure direct on the fundus when the vaginal manipulation will fail. If still the uterus does not respond I place the patient in the knee-chest position, distend the vagina with air, and make pressure on the cervix toward the sacrum with the index finger. Finally, if it is still obdurate, I attempt to dislodge the fundus by pushing it forward with the finger from the rectum while the patient is still in the knee-chest position. If this fails I then have the patient prepared for ether-anæsthetic and then success is easy.

After the uterus is once dislodged I select a Hodge-Smith pessary of the proper shape (previously ascertained to be approximately the proper size and shape) and fit it in the vagina in such a way that it will throw the vagina into its normal distended curve, and carry the cervix-uteri back into the hollow of the sacrum. This pessary will temporarily support this uterus in normal position. The reasons why it will not remain in that position if the pessary is removed are: First, because the sacro-uterine ligaments, which contain a few muscular fibers and whose function is to hold the cervix near the hollow of the sacrum, have been violently and inordinately stretched and have lost their power of contractility and normal tone. Second, because the round ligaments which contain muscle have been stretched into excessive length and have been rendered powerless to act as guys to the fundus of the uterus and keep it from falling backwards. Third, because the muscles of the anterior and posterior walls of the vagina have been stretched by the uterus sliding up and down between them in the direction of their axis,

and the vaginal tube has become shortened from telescoping with the uterus and, in consequence, the tone of the muscles has become excessively impaired. Fourth, the lower bowel, too, soon becomes atonic with a prolonged pressure from a retroverted uterus and its supporting power becomes impaired.

Our problem is to restore all these muscles to their normal tone, so that they will contract gradually while the abnormal strain is removed from them by the pessary, so that finally they will again support the womb without pessary aid.

I seek to accomplish this as follows: Give general tonics which have a predilection for toning muscles and a special aptitude for the pelvic organs. These tonics are strychnia, ergot, hyoscymin, and, when necessary, aloin. I give local stimulants which have a tendency to contract and tone the muscles of the vagina and perinæum. These stimulants consist of hot-water vaginal douches, containing alum a dr. to the pint, not less than a gallon each at a temperature of not less than 115° F., taken with patient lying in recumbent position, administered twice daily. I advise postural treatment. This consists in the woman going to her bed four times a day with clothes loosened and assuming the knee-chest position for two minutes, and while in that position accomplishing a ballooning of the vagina by retracting the posterior forchelle of the vagina sufficient to allow the air to rush in. Lastly, I should tone all the muscles of the pelvis by exercising them with a slow, interrupted faradic or sinusoidal electrical current once every day, or at least every second day, for a period each time of ten minutes. For electrodes for this purpose I employ two varieties: The bipolar vaginal electrode, which combines the two poles in one vaginal instrument, and on alternating treatments I employ a unipolar vaginal electrode and an abdominal electrode.

Bipolar Vaginal Treatment.

This treatment is given as follows: The patient is placed upon a gynæcological office-chair or across a bed in the dorsal position, with feet supported with stirrups or chairs. A digital examination is made by the physician to make sure that the uterus is in position. In this examination he forces the cervix well back and pulls the fundus well forward. The bipolar electrode is forced into the vagina above the front bar of the pessary and carried well into the vagina behind and below the cervix. The two terminals of the electrical machine are now attached to the binding-posts of the electrode. The apparatus is regu-

lated to make not more than two vibrations per second, and as much slower as may seem necessary, so that the muscles will have time to relax after each contraction. The current is gradually turned on until it reaches a maximum point well short of pain or severe discomfort, and is allowed to act for ten minutes. It is then gradually reduced to zero and the electrode is removed. Always ascertain before dismissing the patient that the uterus is in normal position.

Combined Vaginal and Abdominal Treatment.

The details of this treatment are the same here as in the bipolar method except that an abdominal electrode of sponge, or animal membrane or flannel is employed on the abdomen and a unipolar electrode in the vagina.

Mode of Action.

As the current is gradually increased in strength, the muscles under its influence begin to contract with each break of the induced current, or at the maximum strength of the current in the sinuosity of the sinusoidal current, and they relax during the interval of the make and break of the faradic or the time of the minimum strength of current in the sinusoidal. This muscular action is frequently apparent to the operator by the movements it imparts to the whole lower part of the patient. It seems rational that this manner of exciting action to the deep and superficial muscles of the pelvis is something that cannot be imitated by any other remedial agent or application. Electricity, everything being equal, will take the shortest route between the two points of its entrance and exit in any conductor. It does not, therefore, produce a surface effect alone, but it traverses organs in various directions and exerts influence deeply without destroying or producing traumatism.

Thus the muscles of the various ligaments of the uterus and the vaginal tube and the rectal walls are all vigorously exercised by this treatment, and that exercise is administered while their muscles are in the most advantageous positions. The result is a gradual toning of these parts so that when the pessary is finally withdrawn they will exert their normal function and prevent a recurrence of the misplacement.

Time of Treatment.

The treatment is continued for one month. Immediately after menstruation following a treatment the pessary is carefully removed,

the patient instructed to employ due care in avoiding any jar or violent exercise, to faithfully assume the knee-chest position several times for the next twenty-four hours. The position of the uterus should be ascertained to be correct and advice should be given her to return in twenty-four to forty-eight hours, so that the permanence of the work may be ascertained. If the uterus is still in position, or nearly so, reposit it firmly by the bimanual effort and apply the electricity as before the pessary was removed. Continue the treatment in this way for one more month. Examine the uterus after the next menstruation, and if it still remains in position discharge the patient, enjoining upon her the necessity of seeking advice if any of the old symptoms return.

If, after the first removal of the pessary, the uterus resumes its old abnormal position in the next day or two, the support should be again immediately replaced and another month's or two-months' treatment advised. And so one must persevere with these cases for six months or even a year in the more hopeful ones. Finally, if one has the right kind of enthusiasm success will crown his efforts in not more than 33 per cent. of the cases in which the treatment seems at all applicable.

Non-development with Antelexion.

Antelexion as an accompaniment of non-development of the uterus manifests itself by severe obstructive dysmenorrhœa in girls at beginning of menstruation, and often when the symptoms are not too severe it is neglected until later in life and becomes a cause of sterility.

Its cause, usually, may be traced to excessive work which acts as a derivative to the pelvic organs. This work may be physical and arise from overindulgence in wheel-riding, dancing, gymnasium work, or from sewing-machine running or domestic work of any kind about the age of puberty. Factory girls, overworked, in poor hygienic surroundings, are victims of it. Unusual mental work, without sufficient exercise or too much exercise, may act as a cause. Society girls, urged on by social ambitions, neglecting all the laws of health while overworking night and day to fulfil their engagements, are victims of this difficulty. In a word, anything which leads to great exertion in one part of the body at the time the girl should be developing into womanhood may act as a derivative to the important menstrual organs and one or more of them are left undeveloped.

The symptoms are almost unmistakable. They begin with the first menstrual period with the most agonizing pains that can be described. Without any particular warning the girl screams out in pain, which is

attributed usually to intestinal colic. It frequently prostrates the victim. It quickly passes off and in ten minutes is repeated with nearly the same intensity. The mother or some other wise one suspects the true cause. A slight gush of menstrual blood follows the subsidence of each pain. The pains, as time passes, become less frequent and less severe, and in six to twelve hours disappear. The pain has all the characteristics of second-stage labor pains. Nothing but opium or an anæsthetic will give relief, and neither, of course, remove the cause.

The cause of the severe pain is an acute anterior flexion of the internal os, which is so acute that it produces almost complete obstruction. On examination the uterus is found extremely small, soft, and movable. The cervix is long, pointed, and its axis occupies a parallel direction to the vagina. The fundus which is small, usually about the sizes of one's thumb to its first joint, is acutely anteflexed and can be felt on the anterior vaginal wall. The cervix and fundus can easily be made to assume parallel directions by pressing the whole organ forward on to the index finger in the vagina, the anterior notch being obliterated by slight pressure, because the uterus contains so little resisting substance. The uterus is like a soft rubber tube bent at right angles; the caliber of its cavity is large enough when straight, but is completely shut at the point of a right-angle bend. The uterus is partially non-developed as far as muscles are concerned. It is simply a sac with mucous membrane as the cover in the vagina, serous membrane as the cover in the abdomen; it contains a little muscle, a little connective-tissue, blood-vessels, nerves, and lymphatics, and, being devoid of its normal muscular packing, it is as limp and devoid of form as an empty stocking.

The folds and bends in the long-bent sac can be obliterated permanently only by developing in its normal muscular tissue. When the bends are obliterated permanently the menstruation will flow without obstruction and the symptoms due to its malposition will disappear.

Electricity in the form of slow vibrations of the faradic or the sinusoidal current applied properly will almost invariably effect a cure in these cases by developing the muscles of the uterus.

I apply the treatment as follows: Select a bipolar intra-uterine electrode the diameter of which is just as large as the cervix will admit below the flexion. Bend it corresponding with the curve in the uterus with the bend representing an arc of a circle somewhat larger than that represented by the uterus. Introduce the electrode, guided with the index finger, until it is stopped by the flexion. Lower, then, the handle of the instrument so as to throw the cervix parallel with the axis of the

pelvis, and, pressing upon the fundus of the uterus above the electrode, slip by the point of flexure. Attach the terminals of the electrical machine to the two binding-posts of the electrode. Now gradually turn on the electricity until the limit of toleration is reached. Continue the treatment for five or ten minutes. Remove the instrument, note its curve. At each subsequent treatment decrease the curve until finally it can be introduced straight. Give these treatments every other day.

Accompanying Treatment.

Accompanying treatment consists in giving large stimulating hot douches night and morning, supplementing these douches by an anti-septic douche immediately before treatment. Any supposed cause of the non-development should, of course, first be removed. Proper exercise, general tonics, and appropriate tonic laxatives if necessary should not be neglected.

The electrical treatment is continued until the first menstruation. This menstruation will probably be painless, not because the uterus is thoroughly developed in so short a time, but because a large electrode has been inserted into the uterus repeatedly and the uterus has become somewhat less flexed. The treatment should be continued, however, until the uterus gets large and changes from its loose, empty, bent condition to one of plumpness and fulness in which there is no longer room for a bend. This will require from three to six months, according to the faithfulness of the patient to her engagements. As the pain is almost invariably relieved at the first menstruation after the beginning of treatment, it is difficult to impress upon the patient the necessity for continuance of a tiresome process.

Summary.

1. Electricity in the form of the faradic or the sinusoidal current slowly vibrated will cause contraction of the striped and unstriped muscular fibers in the female pelvis. It also is a smart promoter of nutrition.

2. Displacements of the uterus dependent alone on muscular relaxation or muscular non-development, if curable at all without operation, can be cured better and quicker by electricity in the above forms than any other treatment we now possess.

THE USE OF MASSAGE IN MALPOSITIONS OF THE
UTERUS.*

BY WILLIAM H. RUMPF, M.D., CHICAGO.

In a paper read before the Gynæcological Society a few years ago I strongly advocated the more general use of pelvic massage, and deplored the lack of enthusiasm with which this subject has been taken up by gynæcologists. Aside from the very gratifying fact that more space is devoted to massage in some of our best modern text-books, the same condition which existed a few years ago still prevails. Two reasons may account for this. One is, that proficiency in massage is very difficult to acquire, and the other is the operative mania, especially in the treatment of retroflexions, with which even the best of us has become afflicted.

In a short talk of this character, it is not intended to bring forth anything new or startling or exhaustive. I therefore omit any consideration of the history or technique of massage. All of that can be studied in any text-book, or in one of the numerous treatises that have appeared on the subject. I shall simply briefly consider a few questions which have occurred to me in strict connection with the subject before us this evening.

First, what malpositions of the uterus may be successfully treated by massage? In my experience, the retroflexions and versions, and the cases in which the uterus is drawn either to the left or to the right by adhesions are the only ones that are benefited by massage. I have treated a number of pathological antelexions and prolapses according to this method, but have never seen any particularly gratifying result. This, then, would limit the subject, so far as my particular branch of the discussion is concerned, to the consideration of retroflexions. We all know what an important part they play in cases that come to us for gynæcological treatment, and it is right here that massage has given me personally more satisfactory results than any other form of treatment. Secondly, I would ask: In this particular class of cases, what are the indications for the use of massage? I would answer that by saying that all cases in which pus and malignant disease may be positively excluded are benefited by the treatment. These contraindica-

*Read before the Chicago Gynæcological Society, January 18, 1899.

tions are, of course, not always easy to exclude, but as has been frequently pointed out, the massage in itself helps us to make a more thorough diagnosis.

What can we accomplish by massage? Let us take a typical fixed retroflexion with firm adhesions, thickening and infiltration of all ligaments, and large congested uterus. The dysmenorrhœa, menorrhagia, backache, and vesical symptoms make the patient's life miserable. In these cases I am convinced that massage can do more than any other form of treatment to relieve the pain and congestion, and to gradually raise the uterus from its fixed surroundings. I have absolutely no faith in the use of electricity and very little in tampons. I supplement the massage of the uterus by a general massage of the abdomen, in order to increase the tonicity of the intestinal tract. The proper attention to the bowels is, in all of our cases, most important. I still believe what I have stated elsewhere, that oftentimes tampons get the credit for what is really due to cathartic pills.

Can we cure retroflexions of the uterus by massage? Symptomatically, yes. We can relieve the pain; we can make the uterus mobile; we can better the symptoms from bladder and bowels; we can prepare the uterus for the proper use of pessaries, and insure a greater prospect of success for future operations. If we can cure a retroflexion symptomatically, I believe we have gained a great deal. Certain it is that very many women become pregnant and bear healthy children when the uterus is freed from all adhesions, and its normal tonicity restored.

In conclusion I would say that massage is the most valuable adjuvant we possess in the treatment of retroflexions of the uterus. About 50 per cent. of the cases will require no other form of treatment. The rest will be excellently prepared for the use of pessaries or for operations.

Symptomatically, all cases may be relieved. The massage of the bowels should be performed in all cases in which constipation is present. Massage has not been satisfactory in cases of antelexion or prolapse.

TAMPONS AND PESSARIES IN THE TREATMENT OF DISPLACEMENT OF THE UTERUS.*

BY T. J. WATKINS, M.D., CHICAGO.

Fine sterilized lamb's wool is the best material to use for tampons in the mechanical treatment of displacement of the uterus, on account of its elasticity. The value of tampons depends upon keeping the uterus as near its normal plane in the pelvis as possible, and the elasticity of the tampons elongates any adhesions that may prevent reposition of the lower segment of the uterus. Tampons in order to be effective should be used almost continuously; that is, soon after one tampon is removed another should be inserted. It is useless for a patient to wear tampons for one or two days and then to go one or two days without them as is usually done. Tampons as frequently employed are as a mechanical support of little value. Tampons are best inserted with the patient in the knee-elbow or knee-chest position. The Sims' position, however, may be used. With this position the weight of the intestines is removed from the uterus and the vagina is distended with air. As a consequence the uterus tends to occupy its normal location. After restoring the uterus to as near its normal location as possible by gentle force, the vagina should be packed as tightly as possible without producing any distress to the patient.

Much has been said about the relations of the tampon to the cervix as to whether they should be placed anterior or posterior to it. This is of no importance, as the most that can be accomplished is to hold the uterus in its normal plane in the pelvis.

When the uterus is in its normal location in the pelvis, the cervix is about one inch from the sacrum and the body of the uterus, if mobile, will by virtue of gravity and intra-abdominal pressure, remain forward (anteversion).

By use of some antiseptic powder such as boric acid the tampons can be worn 48 hours. The tampons should then be removed, the vagina cleansed and repacked.

Pessaries.—The pessaries that rest upon the pelvic floor will alone be considered. Those that are supported by bands fastened about the abdomen are cumbersome, usually interfere with walking and sitting

* Read before the Chicago Gynecological Society, January 18, 1899.

and seldom give the patient any relief. The Albert Smith and Emmet pessaries fulfil about all the requirements of a pessary for the mechanical treatment of uterine displacements. The pessaries that have been designed to rest in the anterior fornix, to correct antelexions and anteversions, etc., are, as a rule, useless or harmful. Intra-uterine pessaries are dangerous to use on account of liability to infection. There is less objection to their use in cases where the uterine cavity is the seat of an infection, than in cases where the uterine mucosa is aseptic. Intra-uterine pessaries do sometimes relieve dismenorrhœa but it is questionable if they are ever of sufficient value to justify one in assuming the risk of infection which attends their use.

Inflated pessaries are of but little use as they soon collapse. Soft rubber pessaries soon become offensive, covered with concretions and irritate the vaginal wall.

The principle of the action of the pessary is to keep the cervix in or near its normal location (about one inch from the sacrum, and the external os about $2\frac{1}{2}$ inches below the promontory of the sacrum). With the cervix in this location, gravity and intra-abdominal pressure will insure anterior position of the body of the uterus, if mobile, when the woman is in an upright position. With the cervix in normal location there is not sufficient space for the body of the uterus to get between the cervix and sacrum.

The length, width, and amount of curvature of the pessary should be adapted to each individual case. With the patient in the recumbent position the pessary should extend from the posterior fornix of the vagina to a point on the anterior vaginal wall about opposite the internal orifice of the urethra, without producing tension of either vaginal wall. The width of the pessary should be sufficient to remove the relaxation in the vaginal walls but not sufficient to make them tense. The amount of the curvature will depend upon the distance which the uterus has to be elevated to place it in its normal plane in the pelvis. A pessary which is too short, too narrow, or not sufficiently curved is apt not to retain the uterus in normal position and one too long, too wide, or too much curved will produce pain, dilate the vagina and cause injury from pressure.

I have observed cases where continued uterine hæmorrhage occurred from the use of too long or too much curved pessaries as the result of interference with the venous circulation of the organ.

Pessaries are best moulded by heating them in water when they can be easily shaped as desired. To heat them over a spirit lamp, as usually recommended, is objectionable as this destroys more or less

the polish of the instrument and on the roughened surface concretions form and irritate the vaginal wall.

Tampons are valuable in some cases of prolapse of the uterus due to subinvolution of the uterus or its supports when it is impracticable or inadvisable for the patient to remain in the recumbent posture. The tampons are especially indicated when the utero-sacral ligaments are the seat of pain or tenderness on pressure or when the uterus is much increased in weight.

Retroposition of the Uterus.—The class of retropositions of the uterus which are most satisfactorily treated by means of tampons and pessaries consist of those, of recent occurrence, without the presence of adhesions, relaxation of the pelvic outlet, or too great mobility of the organ. In many of these cases the uterus can be replaced, and a pessary fitted that will, if the uterus is not much increased in weight or the utero-sacral ligaments sensitive to pressure entirely relieve the patient of all discomfort. In recent displacements the pessary will in a small percentage of cases result in a perfect cure. If the uterus is much increased in size or the utero-sacral ligaments sensitive these conditions can frequently be relieved by the use of tampons so that a pessary can be worn that will remove all symptoms.

A pessary should never be used whenever there are present any sensitive points which it will press upon or whenever the uterus has a marked tendency to return to the abnormal position as soon as it is replaced. The pessary should be removed at once if it produces any pain or discomfort. It should be removed every one to three months for the purpose of cleansing and readjustment. Douches are not necessary, in absence of discharge, except for cleanliness.

Whether a patient should wear a pessary continuously or submit to some operation of fixation or suspension will depend largely upon the desires of the patient. The thoughts of continually wearing a pessary are very annoying to some patients, and in this instance an operation is indicated. As a general proposition, I believe that a patient with retroposition of the uterus, who is made perfectly comfortable by the use of a pessary, will enjoy much better health by continually wearing the instrument than she will as a result of any of the operations of fixation and suspension yet devised.

I do not advise the use of pessaries in every case of simple retroposition of the uterus as many women have retroposition of the uterus which do not produce symptoms and which consequently require no treatment.

Pessaries are of especial value in some cases of simple retroposi-

tion of the uterus during the second and third months of pregnancy. Retroposition of the uterus, complicated by adhesions, may be treated with tampons supplementary to massage and finally relieved by the use of a pessary. These cases, however, have usually been the subjects of infection, implicating the tubes and ovaries, and frequently these organs then require operative treatment, and indicate hysterorrhaphy.

Cases of retroposition of the uterus complicated by marked relaxation of the pelvic outlet, I prefer to treat by vaginal fixation at the time the pelvic outlet is repaired as I believe that vaginal fixation can be done without materially increasing the dangers of gestation and labor.

The routine use of pessaries, carelessness in studying the indications for their use, and negligence in the proper selection and adjustment of the instrument to each individual case has done much harm and cannot be too severely criticised.

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THE RELATIONS OF PELVIC CELLULITIS TO RECENT PELVIC SURGERY.

BY ELY VAN DE WARKER, M.D., SYRACUSE, N. Y.

(*Concluded.*)

The Significance of the Relapse in Pelvic Inflammation.

The tendency of pelvic peritonitis to relapse evidently differentiates it from pelvic cellulitis, as indeed it does from all other forms of pelvic disease. These relapses are of two kinds. The first, which we may term the intercurrent relapse, occurs after the more acute stages have passed, but the fixity of the pelvic organs and the extent of the exudate have not disappeared. From any cause, attacks of acute indigestion, slight changes of temperature, or over-exertion may cause in a few hours a renewal of all the acute symptoms. These may persist for weeks before there is another lull in the active symptoms. In the late relapse the woman may be pronounced as cured. She may have returned to her usual health and activity; mobility may be restored to the uterus and exudates have been absorbed, and months, and even

years, have passed since the initial attack. Skilled touch may, however, detect adhesions or evidences of tubal disease. Trivial causes may determine relapses under these circumstances. Especially in tubal disease after long intervals slight causes may precipitate a relapse. The philosophy of these delayed relapses is a simple one. Adhesions and plastic exudates are inflammatory products and are not many removes from inflammation. A woman in that condition is subject to what may be fitly termed, suspended relapse. In practise it has been my custom so long as I can detect a focus of tenderness in the pelvis to insist on every precaution to avoid relapse. I have one maneuver that accurately reveals these foci. This consists in lifting the uterus directly upward upon the examining fingers, thus, we may detect the adhesions by the restricted upward movement, or by the pain that is at once elicited. So long as these are present the woman is never secure against a renewal of the acute stage.

All these conditions conducive to relapses in pelvic peritonitis are absent in true pelvic cellulitis. There are anatomical reasons for this. The inflammation and its exudate are external to the peritonæum. In cases of suppuration extending in the direction of the peritonæum it is walled in by restrictive exudate, not of the peritonæum, but in the connective tissue. The exudate in cellulitis is in a position more favorable to rapid and lasting absorption, as the absorptive function of the serous membrane is suspended by the inflammation in peritonitis. In the latter it causes adhesions between organs capable of independent movements thus causing fretting of the inflammatory products, or irritation from postural changes, all of which are absent in the former. In cellulitis there is no provocation to relapse from an inflamed and mal-secreting tube which is so productive of relapse in peritonitis. It is less subject to influences from disturbed function of the genitalia. It is, therefore, true of pelvic cellulitis that its tendency toward recovery is gradual and sure, all things being favorable. However, it must not be overlooked that in pelvic cellulitis we may have enormous cavities of pus which, if not operated, may continue until the patient is reduced to the last extremity. But even in this extremity there is a difference in the clinical picture. It marches on by a steady pace to the bitter end, while in even severe types of suppuration peritonitis it may be characterized by remissions and exacerbations. All conditions in the two diseases being equal, there being in cellulitis few if any vital parts involved, recovery is more rapid, uninterrupted, and lasting than in peritonitis. Absorption of an exudate is a vital process, and as in pelvic peritonitis there is greater disturbance of the forces of elimination and repair owing to mal-nutrition and depressed vitality than cellulitis there is a cumulative intensity of disturbance in the former after repeated relapses

that is never observed in the latter. I trust that this important distinction is made clear, namely, why we have relapses and retarded recovery in the one case and freedom from relapse and more speedy recovery in the other.

Intercurrent Pelvic Peritonitis and Cellulitis and Their Diagnoses.

We have been considering simple uncomplicated pelvic peritonitis in contrast with typical pelvic cellulitis, and we have found the distinctions between the two diseases broad and well defined. It is not unusual, however, to encounter cases in which it is extremely difficult to define the extent to which the two diseases have merged together. The symptoms of peritonitis obscuring the character of the pelvic inflammation and the limits of exudate and phlegmon hopelessly blended together are not unusual. That the two diseases may exist intercurrently is accepted by those competent to express an opinion. It is not so well understood which is the primary lesion. Case II., of our limited group of cases, in which from the extent and the slight and friable character of the intestinal and omental adhesions, and the prior history of broad ligament phlegmon, the peritonitis was secondary to the cellulitis. In Case IV. the conditions were transposed, and from the persistent and long-continued history of pelvic peritonitis that condition was the primary error. These facts were elicited by cœliotomy and not under the conditions which usually form the necessities of pelvic diagnoses, that of palpation. It is not always easy to detect the presence of limited areas of cellulitis, especially when confined to the broad ligament, with the fingers through the cœliotomy wound. This will not be as difficult in the future as in the past, from the fact that cellular inflammation is being admitted to its proper place and the pelvic surgeon will be no longer blind to its presence. So far as practical results are concerned it is not so important to establish the diagnoses between them, as it is to prove the co-relation of the two diseases as mutual products of pelvic disease. The establishment of this fact will prove of vast importance in the pelvic surgery of the future. The surgeon, conscious that the inflammation may not be limited to peritonæal exudates, adhesions, and tubal diseases, but may also exist extra-peritonæally in the cellular structure of the pelvis, will no longer content himself with removing tubes and ovaries and pus-sacs, but will adopt more thorough measures to secure drainage of the cellular extensions of the inflammation. It is true that this diagnosis will be made upon the operating-table, but the pelvic surgeon is not unaccustomed to make his diagnosis

after inspection, and is well prepared to modify his procedures accordingly. I have already shown that the masses characteristic of cellulitis and peritonitis occupy positions so different that the disease may be defined without confusion. There is another sign, not always present but when found renders it nearly impossible to overlook the presence of cellulitis. This is retraction of the thigh. I have never found this condition associated with uncomplicated pelvic peritonitis. It is well worth a careful study, not only for its value as a symptom, but also for the side light it will throw on the extent to which the disease may involve the mechanism of the pelvis. Associated with thigh retraction it is not rare to find œdema of the leg on the affected side and due to another form of anatomical implication in the cellular inflammation. (Case II.) There are very evident anatomical grounds why the retraction of the thigh is such an unmixed symptom of pelvic cellulitis, with or without, concurrent inflammation of the pelvic peritonæum. If we divide the intra-pelvic cellular spaces into two areas we have the visceral such as the broad ligament spaces, the vesico-utero-vaginal, and secondly, the fixed spaces which are continuations of the periphery of the visceral spaces with every part of the subperitonæal cellular tissue of the pelvic wall and lower part of the abdomen. There is thus a direct route and interdependence between all of these extensive areas. Passing through the fixed spaces are two of the important members of the machinery of locomotion. The psoas muscle and the iliacus with their widely radiated origin are directly connected with a great expansion of subperitonæal cellular areas. The peritonæum over the anterior surface of the iliacus is practically the covering of cellular phlegmons and pus collections of the iliac fossa. The upper reaches of the psoas are not so directly exposed to the invasions of cellular inflammation to its overlaying connective tissue, but in the horizontal position, in which most of these cases are, pus may escape upward in the line of the least resistance. We have here a psoas abscess peculiar to women, undescribed and unlike that of the general surgical text-books which is always associated with caries of the vertebra. From the length of time necessary to regain mobility of the leg after iliac phlegmon it is probable that the muscles are involved in the process. Iliitis and psoitis have been observed with similiar contractions without cellulitis.

The manner of this muscular implication is well shown by the experiment of Kœnig. Injections were made beneath the peritonæum near the ovary, the fluid finding its way along the psoas and iliacus muscles into the pelvis; beneath the lateral ligament close to the upper and anterior part of the cervix it traversed the same side of the pelvis, passed

along the round ligament toward Poupart's ligament and thence into the iliac fossa; injected into the broad ligament near the upper part of the cervix but posterior to it, it filled the cellular spaces of the posterior and lateral parts of the pelvis and then pressed along the psoas and iliacus muscles. This demonstrates the continuity of the various areas of sub-peritonæal cellular tissue and also the significance of this symptom. I feel safe in saying that retraction of the thigh as a symptom of pelvic cellulitis is never seen in uncomplicated pelvic peritonitis, and that is absolutely such an unmixed symptom of cellulitis is due to the fact that its cause is remote from the seat of peritonæal inflammation and protected from it by the iliac fascia and the peritonæum while its relation to pelvic cellulitis is, as I have demonstrated, direct and intimate.

The pain simulating rheumatism (Case II.) in thigh retraction extending to the front and inner side of the thigh and to the leg and foot is also an essential symptom of phlegmon involving the psoas muscle. It results from the intimate relations of the anterior crural nerve, situated in the substance of the psoas and between it and the iliacus. Pain in this region is not a feature of pelvic peritonitis, the pain of which is wholly intra-pelvic.

Pain in the lower extremity on the affected side, without leg retraction, is a more common differential symptom of pelvic cellulitis, it follows the distribution of the anterior crural. It also differentiates the phlegmon of the broad ligament from that of the fossa. Its anatomy implies the same condition of the muscles as in flexion of the thigh upon the body in a lesser degree, it may also be due to pressure, and when there is restricted movement of the leg it probably is so caused. The pain of pelvic peritonitis is intra-pelvic almost without exception within my own knowledge, and when extra-pelvic it does not follow the direction of the anterior crural. Pain so distributed would indicate a not unmixed case, or that the peritonitis was extending to the cellular spaces.

Œdema of the leg, always upon the affected side, is another trait of pelvic cellulitis that is unobserved in peritonitis. It is never observed except associated with very considerable phlegmons of the fossa and is always a late symptom, and for that reason all the more valuable as a differential symptom. In leg retraction it is quite constantly present. I have never observed evidences of phlebitis in this enlargement of the leg. It is probably a result of pressure upon the venous circulation of the pelvis rather than an inflammation of the vessels.

Phlebitis has been observed as a complication of phlegmon of the fossa, occurring late in the infection and is one of the indications of a

pus collection extending to the broad ligament. In post-operation conditions, especially after hysterectomy with ligation of the broad ligaments widespread phlebitis has been occasionally observed. In a case seen with Dr. W. S. Cheesman of Auburn, N. Y., in which a large mass occupied the fossa and extended up along the psoas and downward into the recto-uterine space. Abdominal section was made, but the dense mass of intestinal adhesions made drainage in that direction impossible. The vaginal route was selected; in the second week phlebitis of the left leg developed. The abdominal condition was one of tuberculosis. In a case seen with Dr. Billington, then of Manlius, N. Y., phlebitis followed an abscess of the fossa which found exit above Poupart's ligament. Cellulitis in the right vaginal wall, the side of the affected leg, was present. The pelvic condition was in the second month. In a research in the Surgeon-General's Library, upon a subject closely related to this, it was noticed that phlebitis, which is not infrequent as a result of pelvic surgery, followed operations that involved the pelvic cellular spaces and not the peritonæum alone. I have never known of its occurring in simple intra-peritonæal abscess. I think we are justified in regarding phlebitis in cases of pelvic inflammation a sign of differential value.

A real difficulty lies in defining cellulitis of the broad ligament when the intra-ligamentous phlegmon is well advanced in suppuration from an ectopic gestation in the early weeks. (Case II.) Bimanual palpation offers but scant aid in clearing up the confusion. The form and density of the mass, the position, the tenderness, pain, and often the deranged menstruation may all tend to confound the two conditions. There is a difference which educated fingers may detect, but which it is impossible to describe. In Case II., I satisfied myself that it was not an instance of ectopic pregnancy by bimanual palpation, notwithstanding all who had seen the case were opposed to that opinion, but I was not able to so describe the difference as to convince them of the truth of my diagnosis. The history of the case ought to throw the balance of evidence to one side or the other. It is always an admitted weakness to confess that a diagnosis may turn upon the history rather than upon a contrast of differential symptoms. If I could so describe it as to make it clear to the reader what I mean by the difference between density and tension in a mass under the palpating fingers I would be able to describe the variation in touch between an intra-ligamentous phlegmon and the tumor of an ectopic gestation. My description of tension as a sign of the latter may be found in the "Transactions of the American Gynæcological Society for 1887." It must be confessed that a phleg-

mon in this situation well advanced in suppuration may present a well-defined globular mass appreciable by palpation so nearly resembling an ectopic gestation as to render that diagnosis probable unless the observer is very discriminating. (Case II.)

There is another diagnostic symptom so marked and characteristic of pelvic cellulitis that it has never failed to distinguish the disease whether it existed alone or intercurrent with pelvic peritonitis. This is an extension downward of a well-defined mass of cellular infiltration into the lateral vaginal wall and continuous with the lateral vault of the vagina. From this lateral mass a spur sometimes extends transversely behind the cervix but below the cul-de-sac, and free from the utero-vaginal junction. This is an objective symptom offering palpable verification by bidigital exploration through the rectum and vagina and may be caught up between the index-finger in the rectum and the thumb in the vagina. Examined through the speculum the surface is smooth and shining and the rugæ obliterated. This is pelvic cellulitis *per se*, a veritable extension from cellular infiltration of the broad ligament and an indication of its presence that has never deceived me. This sign was figured and briefly described by me in the "Transactions of the American Gynecological Society for 1895," in a paper preliminary to this more elaborate study of the subject.

I hope to be able to show that this condition is the result of the extension of the cellular exudate from the broad ligament through the communicating cellular channels directly into the lateral wall of the passage and thence into the recto-vaginal septum by some rather tedious anatomical details. Briefly it depends upon the peculiar relations of the broad ligaments to the iliac fascia and which is continuous below with the lateral pelvic fascia. The best description of this is the old one by Jarjavy and quoted by Bernutz and Goupil. In dissecting the broad ligament from its lowest part at its blend with the tissues of the vaginal vault, two portions unfold, separating into muscular and serous layers and an aponeurosis. At its upper part this separation is arrested by a thin aponeurosis separating the tubo-ovarian apparatus and the round ligament. By lifting the peritonæal layer at the upper border of the broad ligament, which is not difficult except at the part of the ovary and Fallopian tube, we find a thin aponeurosis, resembling that at its lowest part. At the outer side of the Fallopian tube these two layers unite, separated only by small vessels surrounding the round ligament, and blend with the anterior aponeurosis of the broad ligament, behind they unite with the posterior aponeurosis, laterally they are defined by the superior angle of the uterus, its anterior border, and externally be-

come one with the iliac fascia. We see from this description why the characteristic vaginal extension of the broad ligament exudate takes a never-varying direction. It is never found in the recto-vaginal wall coming from the direction of the utero-vaginal commissure, but always as a spur from the lateral vaginal wall as from this direction only is it continuous with the broad ligament cellular spaces closed in, as this channel is, by the ligamentous aponeurosis and the iliac fascia. Bernutz commenting on this says, that it "enables us to understand how abscesses of the broad ligament developed in its cellular tissue are situated below this aponeurosis, below the Fallopian tube, and in front of the ovary; while on the contrary, the purulent collections found in the cases of pelvi-peritonitis, which we are considering, are intra-peritonæal lesions, connected generally with affections of the tube and ovary, and situated behind and external to the layer of aponeurosis. Hence it results that the progress of the inflammation of the cellular tissue must necessarily tend toward the abdominal wall or else to the deep iliac fossa." The extent of this intraligamentous space, enclosed by its aponeurosis, is well displayed at its lowest part in panhysterectomy by the supra-pubic route in the Trendelenburg position by which the folds gravitate apart and display the vessels and lymphatics and the cellular space laterally to the pelvic wall and below into the connective tissue of the lateral vaginal wall. Savage also gives an exact description of intra-pelvic cellular spaces which goes far to explain the implication of the vaginal wall. In his description we may trace the inflammation of the broad ligament extending to the iliac fossa laterally and downward through connective-tissue spaces into the vaginal wall, and through the sacro-pubic areolar process also to the lateral surface of the vagina. Thus we see there is a direct communication between the spaces of the broad ligament and the iliac fossa to the lateral vaginal wall, guided by the aponeurosis of the ligament and the fascia of the pelvis. This also demonstrates that pelvi-peritonitis and pelvic cellulitis are well defined anatomically with good and substantial structural reasons that the vaginal cellulitis belongs to the latter and never to the former, and why the two diseases should so widely vary in their clinical history with a formidable array of differential symptoms whether they exist separately or side by side.

The tactic demonstration of the cellulitis of the vaginal wall is a very simple matter. A vaginal examination reveals the exudate in the wall of the passage. Its further exploration is made by inserting the thumb into the vagina and index-finger of the same hand into the rectum, the mass may then be palpated between the thumb and finger.

In case there is an extension of the exudate into the recto-vaginal septum it can be thus traced from the side of the passage.

The palpation of the broad ligament is always more effectively made through the rectum. It is usually a painful proceeding and is practised more effectually under an anæsthetic. Under this condition the extreme lithotomy position gives a more extended reach to the exploring finger and places the abdomen better under the control of the palpating hand. When the presence of pus is suspected great care must be used and gentleness as thin-walled sacs have been ruptured and the contents diffused through the peritonæum with fatal results. By this manipulation the infiltrated broad ligament can be traced directly downward into the lateral wall of the vagina and thence into the recto-vaginal wall. In this position also the bimanual palpation is more effectual in detecting the extension of pelvic peritonitis as well as differentiating a distended tube and intra-peritonæal accumulation from the exudate in the broad ligament.

The following is a synopsis of the foregoing symptoms tabulated in contrasting form:

Pelvic Peritonitis.

Following labor or abortion in a few days.

Beginning in a rigor.

Severe fever, face pinched, prostration,

Pain acute, sharp.

Great tenderness of abdomen.

Tumor usually behind pubis.

Tumor as a rule not above pelvic brim.

In early stage more evident in vaginal cul-de-sac.

Suppuration rare

Purulent pelvic peritonitis attended with symptoms of peritonitis.

Purulent mass intra-abdominal.

Pelvic Cellulitis.

Eighteen to twenty days after.

No rigor. (Bernutz.)

Less fever, no facial or general reaction.

Pain dull, throbbing, like beginning abscess.

Lesser tenderness.

Tumor usually in iliac fossa.

Tumor at or above brim.

In early stage less evident in cul-de-sac.

Suppuration very frequent in phlegmons. (Bernutz.)

No symptoms of peritonitis.

Purulent mass in iliac fossa, sub-peritonæal.

Pus confined.	Pus often diffused and burrowing.
Pus tends toward vicera or encysted.	Pus tends toward abdominal wall or deep iliac fossa.
No retraction of thigh.	Retraction of thigh.
When mass extends into the iliac fossa it is not well defined.	In cellulitis always well defined.
Tumor elastic or fluctuating.	Tumor more solid.
Always uterine displacement with peri-uterine mass.	May be absent with very large pelvic mass.
Never involves abdominal wall.	Often involves abdominal wall.
Relapses from slight causes frequent.	Relapses rare.
Sometimes an intestinal percussion note over mass.	Dull on percussion.
Never extends to vaginal wall.	Extension of cellulitis from broad ligament or iliac fossa into vaginal wall.
Often associated with specific infection of vagina.	Usually no specific infection.
Occurring without lesion of genitalia.	Often following lesion.
Pain always intra-pelvic.	In addition pain in anterior and inner side of thigh to leg and foot.
Phlebitis not observed.	Phlebitis an occasional complication.

The Relative Frequency of Pelvic Cellulitis and Pelvic Peritonitis.

There are no comparative statistics upon this subject. The attempt to differentiate the two diseases is too recent to give an opportunity for comparison. But this question exemplifies a tendency that seems to be nascent to gynæcology, a readiness to give an opinion unsupported by facts, as though such an opinion could have any value in a final judgment. For example, in a debate on a nearly related topic in the "American Gynæcology for 1895," one speaker stated that the proportion was "more than nine cases out of ten which passed as cellulitis at that time." Again, "take a hundred cases of pelvic abscess and operate and you may not find one which would be classed as a pelvic cellulitis." As a context to this the same speaker expressed the utterly unsupported

assumption that "if pelvic disease (cellulitis?) is present, it is apt to be found as a sequel to disease of the tubes and ovaries." It is unfortunate that all warmly debated subjects in gynæcology assume a controversial form, and also true that no subject ever reached a finality under this condition. It is more scientific to say that we do not know. Although I have given this subject close attention for years my own definite contribution to this is limited. In sixty recorded cases of pelvic inflammation there were seven cases of uncomplicated pelvic cellulitis, unoperated. From the permanent recoveries without later disturbances of function it is probable that the tubes were not implicated. In my first tabulation of fifty cases of abdominal section for tubal disease, there are no recorded complications from pelvic cellulitis. I was simply carried away by the enthusiasm which effected every one during the early period of this operation. In the second series there are nine cases complicated with cellulitis, and in the third series there are eleven. I would not say that some were overlooked, but making due allowance for personal equation, I think, so far as my own work throws any light upon the subject, this is about the usual ratio.

In these mixed cases it is difficult to ignore the question of sequence, as it lies in an intimate relation to the ratio of association of the two diseases. That pelvic cellulitis is so frequently due to an extension of the inflammation from the peritonæum to the subjacent cellular spaces the natural history of the disease contradicts. The extent to which pus accumulation within the peritonæum are walled in by exudate and the ready disposition of that surface to limit the inflammatory process by plastic adhesions, the great length of time that pus may be confined to a tube without extending to near parts. The long duration of sacculated pus accumulations within the peritonæum without seeking external outlets. The very frequent attacks of pelvic peritonitis is without the formation of pus. The disposition of peritonitis to become chronic and to relapse, all point to the well-defined line existing between the two diseases, and which could not be easily passed. From these conditions it would be better to say that these mixed cases are due to a common infection rather than an extension of inflammation. A mixed infection, a cellulitis due to trauma and a co-existing specific infection of an ascending type in view of the widespread existence of the latter may account for a certain number of associated cases. It is difficult to avoid this conclusion in view of the fact that most observers agree that the majority of the cases of pelvic peritonitis and tubal disease is due to specific causes either acute or chronic. Statistics upon this subject are well worth gathering as it will not only throw light upon a subject but

little understood, but will afford a common ground upon which men of widely divergent opinion may meet and reach a scientific agreement.

The Surgery of Pelvic Cellulitis.

Supra-pubic cœliotomy for pelvic peritonitis, or its products, has been brought as near perfection as it is possible with our present knowledge of pelvic pathology. It has been the more superficial, the unobscured, and the accessible that has received the attention of the pelvic surgeon while the deeper lying and less tangible has escaped his attention. Pelvic cellulitis has been a theory rather than a condition, and the mental attitude of the surgeon has been one of strenuous denial. There are men in America who are able to number their abdominal sections for pelvic peritonitis, real and putative, by the thousand who claim that they never had met with a case of pelvic cellulitis. With all their rare dexterity of touch they had worked without an understanding of the deeper significance of pelvic pathology, content with denial and intolerant of what they believed the vision of the theorist. From the foregoing the reader may, unless cautioned, misunderstand the position of the author. The removal of infected tubes if they may not be otherwise treated, the clearing up of peritonæal adhesions, the evacuation of pus accumulations is proper and necessary surgery and has given brilliant results. No one is more willing to concede honor to the men whose courage and enthusiasm carried the method to perfection. What I am contending for is a scientific recognition by the surgeon of the various forms of intra-pelvic inflammation. This, in addition to what I have already said in the opening of the paper, will make, I trust, my attitude sufficiently clear. It is within a comparatively short time that some have become alert to the fact that from the surgeon's point of view there were other morbid entities than pelvic peritonitis effective. Notwithstanding that his operation had been most thoroughly and carefully done his patient did not get well. Many surgeons, who candidly admitted these negative results, began to accuse the most inoffensive organ in the female pelvis of being the offender. The uterus was the source of interference with the perfection of his results. Hysterectomy, with men of his group, became the new formulæ. The uterus became a superfluous organ after removal of the tubes and ovaries; it was a persistent focus of infection and a constant source of irritation. From the broader standpoint of recent pelvic surgery this is a conclusion without proof, and the confusion of cause and effect was more hopeless than when it was insisted that there was but one form of pelvic inflam-

mation. There is not a single fact advanced at the present time to prove that the uterus is a superfluous organ after castration. There is no proof adduced that the uterus is a source of infection or irritation.

The idea is a product of the French method of vaginal uterine extirpation in pelvic inflammation. There is no doubt that the procedure gave better results in total perfect recoveries than the very popular American supra-pubic operation. It gave better results because an essential part of the French technique was hysterectomy but it was hysterectomy of a certain kind performed with clamps and forceps which were removed and allowed the tissues to retract and open thus allowing efficient drainage to the inflamed cellular spaces and non-absorbed exudate. When the English-speaking surgeon insists that the operation which secures the broad ligaments with inclusive ligatures and closes the vaginal vault with close suturing is the surgical equivalent of the clamp and forceps operation he will still find himself confronted by the same proportion of unrelieved cases when there is cellulitis present. The hysterectomy was not essential to cure; it was simply a method of drainage when made by the clamp and any other method which afforded the same facilities for drainage would have given equally good results. I do not offer this as an opinion but as a legitimate deduction from facts and experience. A formulated system of technique for pelvic cellulitis is not known. I do not know of any one who, prior to myself, had practised and described a separate treatment for non-absorbed exudate either alone or complicating cœliotomy for intra-pelvic or other conditions. After working on this line for many years I described my method briefly in a paper read before the American Gynæcological Society at Baltimore, in 1895, "A Few Cases of Pelvic Cellulitis: A Plea for More Thorough Surgery." It is not necessary to refer to the arguments advanced in that paper. The English-speaking cœliotomist had made a practice of treating extra-peritonæal abscess through a median incision as though they were intra-peritonæal, mainly for the reason that they were mistaken for the latter. Non-absorbed exudates were generally left untouched on the theory that they were dependent upon the intra-pelvic condition, and would disappear on the removal of the cause. When the vagina was selected as a route for drainage the opening led directly into the peritonæal cavity and was intended to drain it, and not the cellular spaces. Such in brief was the status of pelvic surgery in its relations to pelvic cellulitis. The surgical treatment of the suppurating phlegmon sometimes offers serious difficulties from the depth of location and the important advantage over that of suppurative peritonitis from the standpoint of

the surgeon there is not the same necessity for prompt action. A cellular abscess may maintain a uniform status for months (Case II.). This is not without its dangers. A condition that invites procrastination may prompt dangerous delay. Within a reasonable limit it allows an opportunity to study the situation and the best way of attacking it, for the same reason that a judicious surgeon would not open the abdomen in the first acute stage of a pelvic peritonitis from the greater liability to sepsis and a wider diffusion of the inflammation. After the extension of the inflammation has ceased and its zone of exudate limited the surgeon may interfere without additional hazard to the patient. The same rule applies to surgical intervention in pelvic cellulitis. All pelvic inflammations appear to obey a law of limitation. After the acute stage has abated the limits of the phlegmon become stationary and may so remain for an indefinite time. If pus is detected its limits are well defined and signals the time for its evacuation.

There is a marked difference between opening the cellular and the intra-peritonæal abscess, the latter drains badly and special measures must be taken to secure perfect evacuation and thorough toilet, while the former may be opened at the most available point draining almost equally well in any direction owing to the contractility of its environment, a condition nearly absent in the intra-peritonæal abscess. Extra-peritonæal abscess is not so prone to diffusion and general sepsis as that contained within a membrane characterized by a capacity for active diffusion of sepsis such as the peritonæum. Hence suppurative cellulitis is not attended with the same degree of danger and allows time for the contraction and repair of the suppurative cavity. The indications for operation are not so clearly defined in phlegmons as in suppurative peritonitis, in this, that in the latter from its more superficial situation and the usual pyæmia there is hardly ever any doubt of the presence of pus; while it is not unusual to cut down upon a phlegmon and explore its deeper parts without detecting pus mislead by the constitutional evidences of suppuration. While this is exceptional the rule may be stated that the chronicity of the phlegmon is not a guide to the presence of pus in the absence of general symptoms clearly indicative of pus. In the older form of the abscess, which has with doubtful propriety been called chronic suppuration, constitutional symptoms may or may not be present, but a persistent pain of a throbbing, wearing character, attended by hectic and progressive anæmia I have always observed to attend the suppurating phlegmon in its mature form and calls imperatively for operation.

From a surgical standpoint the most important difference between

the intra-peritonæal abscess and the suppurating phlegmon is in the plastic exudate which, from an early period, circumscribes the former and tends to localize the collection and which is absent in the latter, in which the mass is not the result of adhesive inflammation in near parts, but the product of homogeneous tissue. It may be still further contrasted in this, that in the former the suppurative process may precede the formation of the mass of adherent parts, while in the phlegmon the mass forms first and the pus collects later in a central crater. The pus, therefore, in cellulitis has a tendency to migrate along channels of the least resistance and may present at points remote from its origin. It will follow the psoas, or work backward through the notch (Case III.), or downward along the rectal wall. Outlets along these deep channels are exceedingly difficult to close. I have found the better way to follow the sinus with the finger, using finger-nail dissection both in straightening the channel and breaking up septa. And here I would like to say that what can be done by the finger-nail dissection is yet an unwritten chapter in gynæcology. A drainage-tube, preferably of rubber, is then inserted and washed out with antiseptic solutions, avoiding carbolic acid, corrosive sublimate, and formalin, neither have I found any satisfaction in the use of peroxide of hydrogen, from its tendency to distend cavities with gas which has no germicidal value and prevents the contraction of the sac. Under this treatment these channels will close in from one to three months as a rule. The sinus must be kept open until the sac heals, otherwise the operation will need to be repeated. In some cases a counter opening is necessary. When an opening occurs along the crest of the ilium in abscess of the fossa, notwithstanding drainage and irrigation, the symptoms of an unopened abscess may continue in full force until a counter opening is made (Case III.) in the opposite periphery of the phlegmon, not so much to secure dependent drainage as to permit a through-and-through wash. Under this management the recovery is sometimes remarkably rapid. There are few cases in surgery more satisfactory than these. There are many reasons why opening the peritonæal cavity should be avoided in these cases. Cœliotomy is too indirect an attack and the necessary drainage requires too long a time to make it prudent through a cœliotomy wound. The surfaces of these cellular abscesses even when extensively invading the abdominal cavity cannot safely be secured to the margins of the cœliotomy wound so as to occlude the peritonæal cavity. It may be necessary to open the abdomen in order to select the most favorable point for incision (Case of Dr. Dewitt), further than this I do not believe that anything can be gained by the common supra-pubic operation.

It is the supra-pubic operation for pubic peritonitis and its products that cellulitis has its most practical bearing from the point of view of recent pelvic surgery. It is the unsuspected presence of cellulitis that has rendered a certain proportion of these operations no matter how carefully and radically made, ineffective to the cure of the patient. If this operation is made with reference to the presence of cellulitis in either the broad ligament or the iliac fossa, the procedure must be modified accordingly. This will usually consist in approaching the area of cellulitis through the vagina. The opening should be made through the anterior vaginal fornix. If additional room be needed lateral flaps may be formed from the anterior vaginal wall by an incision near the urethra backward to the incision anterior to the cervix, thus opening the utero-vesical space. From this point it is the finger-nail dissection into the region of cellular exudate. Pus may, or may not, be released, but the need of drainage in the resolution of the exudate is equally effective. If the finger-nail is filed flat on the end and the edges smoothed by the file these tissues are parted, not cut, and this part of the operation is usually bloodless. The sense of touch guides the finger away from dangerous structures almost infallibly. By allowing the finger to guide itself, as it were, by taking the course of the least resistance in the direction which the operator wishes to penetrate the drainage track may be kept exterior to the peritonæum. In fact the membrane is a very safe guide. All operators know how difficult it is to penetrate the peritonæum with the finger in vaginal hysterectomy. If the supra-pubic operation is made aseptically and thoroughly it is the fashion at present to omit drainage of the pelvis. Thus, the extra-peritonæal drainage is uncomplicated with that of the peritonæum but the latter would in no way contra-indicate, or complicate that of the former through the vagina if the operator wished. For drainage of the peritonæum through the vagina it is better to proceed direct into the sac leaving the track into the cellular exudate separate from that leading into the peritonæum. The drainage into the peritonæum may be a tube or gauze. This will require separate management. The drainage of the peritonæum rarely requires more than two or three days, while the cellular drainage requires sometimes as many weeks. My rule is to keep it up until I can no longer insert the gauze. The drainage material is inserted loosely, never packed. One reason for keeping up the drainage such a length of time is the tendency of the wound through the vaginal wall to heal rapidly before the opening above is thoroughly healed, leaving a dead space behind. The drainage product in the absence of pus is a bloody serum which gradually diminishes. The

track may be washed out every time the gauze is removed using simply sterilized water and avoiding chemical solutions. The same methods may be followed in opening from the vagina into abscesses in either the broad ligament or iliac fossa. I have made the vaginal incision both in the anterior and posterior vaginal cul-de-sacs, and I have found the anterior one to give a much wider range, especially in penetrating toward the iliac fossa.

Another group of cellular abscesses is defined by the pus finding spontaneous exit prior to operation. These are cases in which the openings occur in the bladder or rectum, or in which the pus dissects its way downward alongside of the rectum, and forms a fistulous opening external to the sphincter ani, or establishes a sinus through the recto-vaginal septum, and deflected forward by the perinæal body, finds its exit at the vulvar commissure, or on the inner surface of the labium majus. Sometimes these spontaneous openings are found in either the anterior or posterior vaginal cul-de-sac, rarely lateral to the cervix. Generally the abscess proper is situated in the deep iliac fossa, or under the psoas, and less often in the broad ligament, in which case the pus has worked its way laterally into the fossa. This group, under the methods usually followed in recent pelvic surgery, is nearly hopeless of relief. These sinuses rarely, if ever, have their origin in intra-peritonæal abscess, and strange to say but little is said about them, and yet they are not rare. They require a special technique for their treatment. Dilatation of the fistula and drainage with irrigation is a safe and efficient treatment provided the foci of the abscess may be reached. The external opening is generally very small from the tendency of the surface opening to heal and contract. When the external opening is incised the channel beyond may be found of considerable size and which may be readily followed with the finger. They may be dilated in the same manner in which the finger is used to dilate the female urethra. It is surprising to what a depth these channels may be followed. In case the track is very small a flexible guide may be inserted followed by a dilator. Narrow tracks of this character may be traced upward from the inner surface of the labia into the recto-vaginal septum, gradually expanding in the upper portions of the septum. Gauze or tubular drainage may be inserted. Rubber tubing I have found the better material as it may be used to carry the irrigating fluid to the bottom of the sinus. Gauze acts rather as an obstruction and requires renewal, which is sometimes a painful process, and I have noticed that on renewal the gauze is rarely carried as deeply as was the original drain. In the case of old sinuses it is difficult to localize the seat of

the primary abscess as there is just enough drainage to cause the sac to collapse and absorption in the surrounding exudate so as to render it quite inappreciable to bimanual palpation. I have traced old sinuses that terminated in the tissues, the primary abscess having evidently collapsed and healed. These may also be outlets from abscess of the lower rectum in which case they are nearly always associated with fistula in ano. They may be distinguished from the former by never extending to the upper portion of the vagina and not leading to the rectal cavity. This group of cellular abscess is sometimes observed to be associated with relapsing pelvic peritonitis and in which order cause and effect exists is not easy to determine. The general health of the woman is sometimes unaffected. In one patient the abscess occurred a few weeks subsequent to the birth of her first child and was never positively located, but was probably in the iliac fossa. Since then she had borne four healthy children. She was a strong working woman in good flesh. These long fistulous tracks will sometimes refuse to close until a counter opening is made. When the external opening is near the vulva a counter opening may be made by cutting down upon the probe in the upper portion of the vagina, and renewing the dilatation from this point trace it into the pelvic cellular spaces, the lower part of the channel closing spontaneously. When the remains of the phlegmon can be located the more direct route is an incision in the anterior or posterior vaginal fornix as already described.

Pelvic cellular abscess that break through the bladder or rectum are inaccessible to treatment in that location and require counter openings. Formerly it was sometimes difficult if the history was obscure to determine if the pus came from a suppurating kidney or a pelvic abscess. With the recent methods of bladder and urethral inspection this difficulty no longer appears. Usually abscess finding exit along these routes do not point above the pelvic brim, but if they do, while it is helpful to incise at this point, more efficient drainage may be secured through the vagina. In Case III., in which the primary opening occurred in the rectum, pus indications were followed up in the direction of the notch the wash coming out through the rectum for a few days when the drainage was diverted in the direction of the new opening and the rectal fistula closed. Rectal openings are more serious than those which open into the bladder. Absorption from the rectal surface will give pyæmia of more intense type when the pus is active than was caused by the abscess cavity itself. The rectum requires douching like the vaginal; further, intestinal gas will find its way into the abscess cavity and cause a very active mixed infection. Counter openings in

these cases are urgently indicated. If such openings cannot be made above the pubes without invading the peritonæum, which is very dangerous in these cases, the vaginal route must be selected. Thorough dilation of the sphincter ani muscles is a very necessary part of the treatment. The abscess sometimes finds its way into the sigmoid when on the left side and this is followed by a more intense grade of pyæmia with a more abundant accumulation of gas in the abscess sac than when the rectum is implicated.

DANGEROUS THINNING AND ELONGATION OF THE
LOWER UTERINE SEGMENT: INCLUDING THREE
CASES OF RUPTURE.*

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Case I.—Mrs. W., a very stout and robust woman of thirty-five years of age, was seen in consultation with Dr. Muren in her eighth



Fig. 1.—Child extruded from upper uterine segment. Retraction-ring above navel. ($\frac{1}{4}$ life size.)

labor. The first delivery had been instrumental, the others not abnormal. Many hours of vigorous pains had brought about the conditions found.

* Read before the New York Obstetrical Society, December 13, 1898.

the diagonal conjugate was $4\frac{1}{2}$ inches (11.25 cm.) scant, the os fully dilated, the breech entering the brim. The child's sacrum was nearly to the front. The uterus measured 11 inches (28 cm.) from fundus to

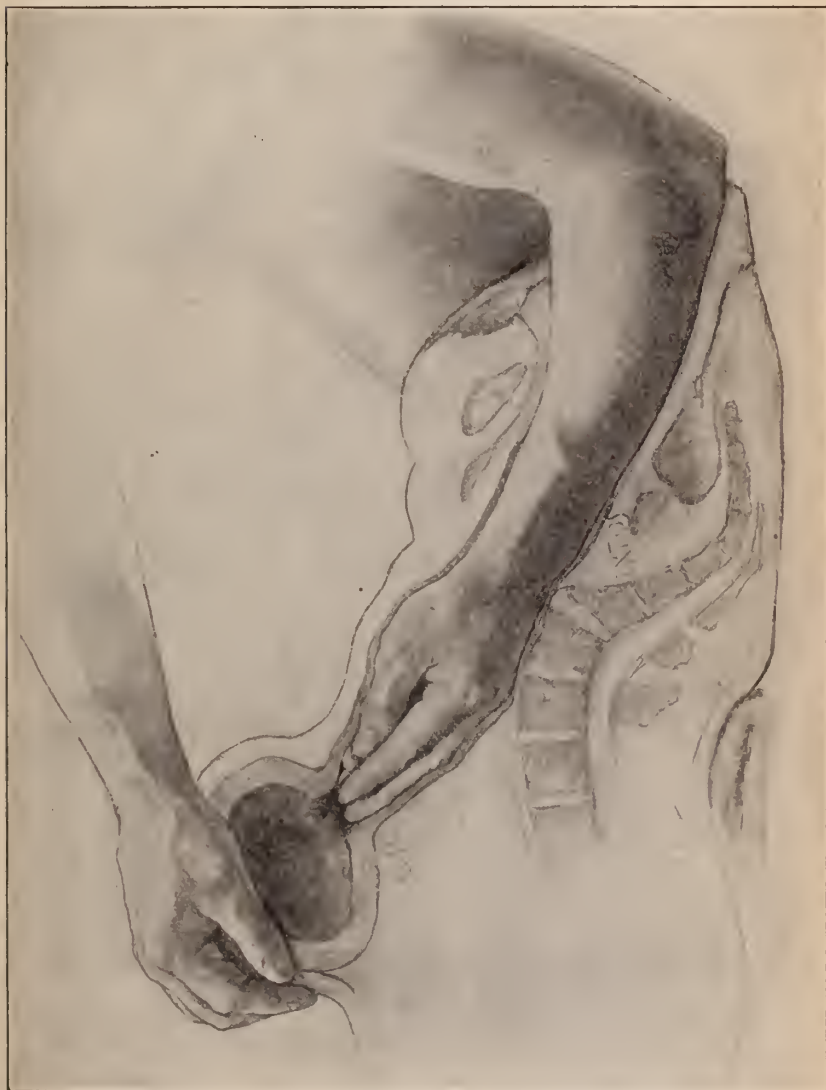


Fig. 2.—The hand passed into the birth-canal finds the retraction-ring, C. R., over 12 inches from the vulva. The external os, EXT. OS, is within the true pelvis. (About $\frac{1}{4}$ life size.)

top of symphysis and was too tense for satisfactory palpation. Across the front of the upper third of the body ran an oblong hillock of ample size to house a small second child, but without any sensation of foetal

parts. Rather did it resemble in feel a large hæmorrhage from a normally located placenta. Beneath it a transverse sulcus crossed

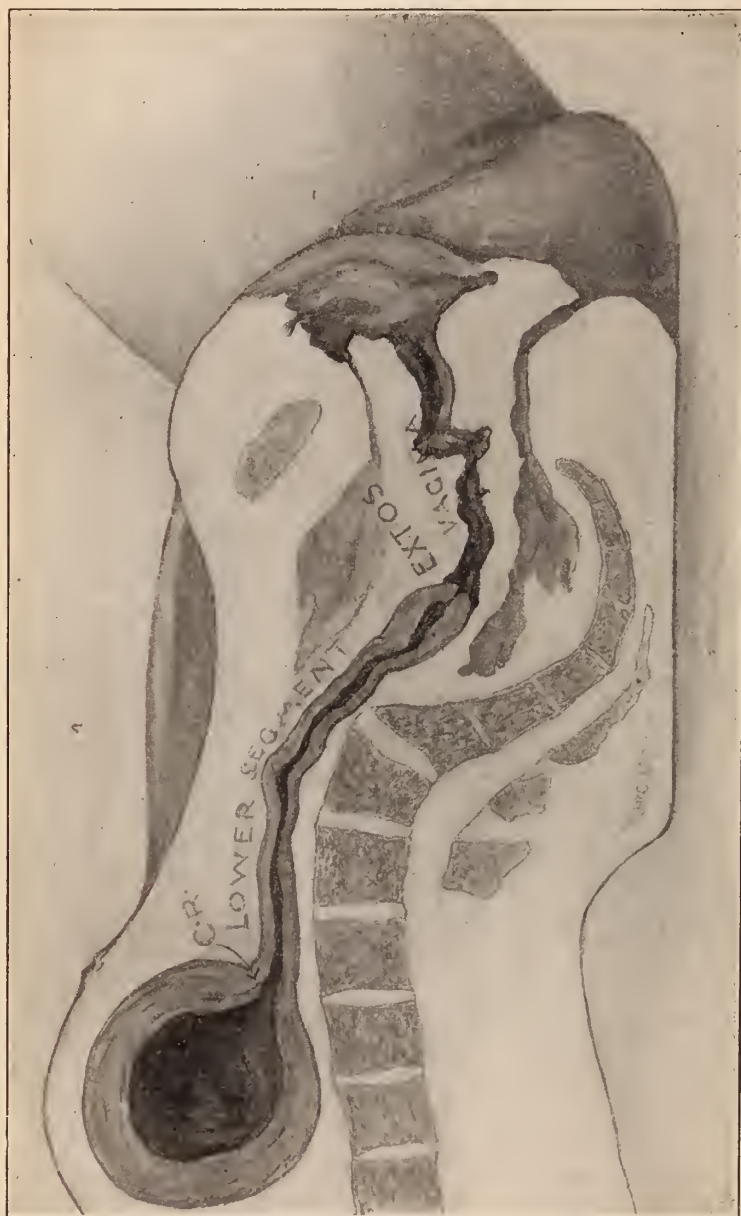


Fig. 3.—Diagram of paresis of birth-canal in Case I. C. R., retraction-ring. Remarkable elongation of lower uterine segment, threatening rupture. Compare with Fig. 7. (About $\frac{1}{4}$ life size.)

above the level of the navel. The child's head was hidden behind this mass, but not in it. The diagnosis lay between twins, and accidental

concealed hæmorrhage, and a very marked retraction of the uterus. Forceps had been applied to the breech. See Fig. 1.

The mother's pulse being weak at 120, she was transferred to the Long Island College Hospital, and, under ether, was speedily delivered. The hand was gently slipped behind the breech, the statement being made to the class in attendance that very little pressure could be permitted on account of the danger of rupture of the uterus. Had any difficulty been encountered, the Trendelenburg-Walcher position would have relaxed the uterus. One leg was partly flexed, the foot of the other being against the child's face. The legs were brought out, the foetal cord found to be pulseless, the arms, which were extended, being extracted

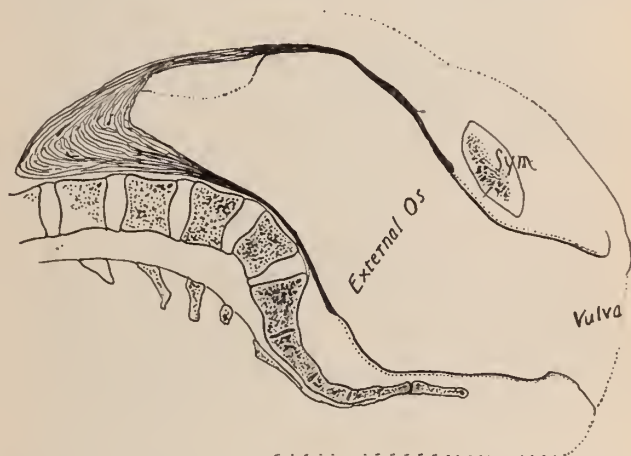


Fig. 4.—Extreme thinning of the lower segment in a case of rupture of the uterus. The fundus is cut through obliquely. The head alone has been delivered. (Zweifel, frozen section, $\frac{1}{4}$ life.)

by my method, and the head delivered with no great difficulty. The extraction of the nine-pound child occupied less than fifteen minutes. As the child was dead, haste was not necessary.

To bring the labor to a rapid close the hand was at once passed into the uterus for the placenta, the after-birth found loose, and extracted. High up in the uterus, and admitting three fingers, a well-defined constriction was prominent. Beyond lay a considerable vacant space. It was somewhat remarkable that this retraction ring was between twelve and thirteen inches (32 cm.) up the birth-canal as measured on the arm where it passed into the vulva. The navel is thirteen to fourteen inches (34 cm.) from the vulva, measured along the birth-canal, before deliv-

ery, and the contraction ring had been above the navel. Thinning of the lower uterine segment and thickening of the upper segment is a familiar phenomenon in long labors. This is an exaggerated instance of such retraction. The speaker has examined all the frozen sections which have been published and finds that *before labor the wall of the lower uterine segment averages 6 mm. ($\frac{1}{4}$ inch) in thickness, and during labor 3.5 mm. ($\frac{1}{8}$ inch)*. Anterior and posterior walls are rarely equal in thickness, but the sections are nearly divided on thinner anterior or thinner posterior walls. The extreme measurements vary between 2 and 7 mm. ($\frac{1}{16}$ and $\frac{4}{16}$ inches). The remarkable thing in this series is that there are so many instances where the measurement close to 2 mm. ($\frac{1}{16}$ inch) was found, namely, in seven different sections.

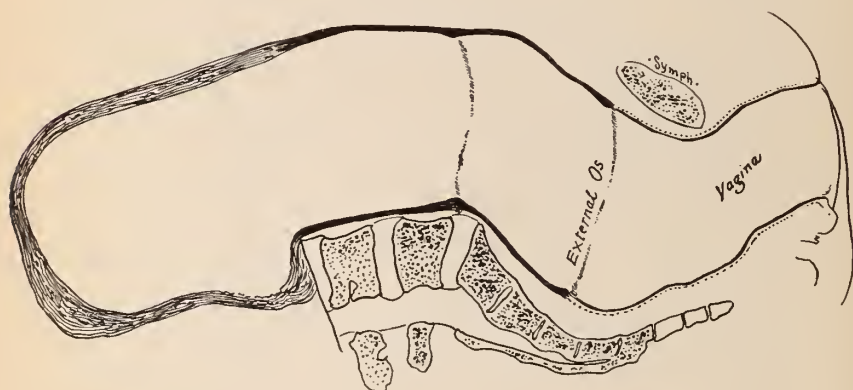


Fig. 5.—Extreme thinning of lower uterine segment in a case of placenta prævia. (Zweifel, frozen section, $\frac{1}{4}$ life.)

Thickening of the wall of the upper uterine segment is a constant factor in labor-mechanism. It is especially marked in long or obstructed labors. The average thickness of the uterine wall at term is the same as during the early dilatation stage, as measured on eight frozen sections, namely, 7 mm. ($\frac{1}{4}$ inch). Toward the close of the expulsion stage it is, on five sections, from 9 to 18 mm. ($\frac{1}{4}$ to $\frac{3}{4}$ inch) averaging 1 cm. ($\frac{3}{8}$ inch).

The height at which the retraction ring is located when it becomes distinctly palpable in long and stormy labors, is variously stated. It is not infrequently in the vicinity of the navel, and when found there serves as a danger signal, indicating perilous thinning of the lower uterine segment.



Fig. 6.—Hydrocephalus, the head in the lower uterine segments, the retraction-ring above the navel, the upper segment containing placenta and clots. (No scale.)

It is held that the lower uterine segment is a passive canal or passage-way somewhat in the same sense that the vagina is, and that it has little or no expulsive power. The lack of contractile vigor in the lower uterine segment is strongly emphasized by the findings in this instance, namely, by the distance of the retraction ring from the introitus some minutes after the extraction of the child. If the ring was over thirteen inches (33 cm.) distant from the rima pudendi before delivery, it was over twelve inches (30 cm.) away, afterward. The birth-canal collapsed, but the upper end of it did not bring itself nearer to the lower end.

At the end of the anæsthesia rapid pulmonary œdema set in, with chocolate-colored frothing. The pulse was of bad quality at 140. But cupping over the back of the chest brought about a rapid improvement and the patient has made an uneventful recovery, except for a superficial necrosis in the vagina, with temporary elevation of temperature, at the location of two lateral injuries, neither of them deep.

Case II.—In this connection, let me report an instance of *extreme thinning with rupture of the uterus*, in which the appearance of the upper section of the uterus, like that of the case to follow, suggested that it contained a twin. Mrs. McP., was seen in her eighth labor. Her first child had been delivered with forceps and the labor had been followed by puerperal fever. In this labor the attending physician had done a podalic version, but found difficulty in delivering the head. I found the body of the child extracted; it was of average size and well nourished. The uterus as seen and palpated through the abdomen was of an hour-glass shape; the lower lobe being rounded and firm, the upper globular section reaching to the ensiform—much softer, suggestive of a fœtus at one part only. My diagnosis was hydrocephalus with either a second child or placenta and clots in the upper segment of a strongly retracted uterus. In passing, it may be said that in cases of extreme retraction, like the three here quoted, the firmly contracted condition of the muscular wall of the upper uterine segment gives a sensation of “hummocks” to the fingers. This sensation is due probably to irregular areas of contraction in the uterine wall and is probably analogous to the nodular or lumpy feeling found in the uterus after the delivery of the placenta in normal cases. See Fig. 6.

I slipped the Smellie perforator into the child's mouth back of the hard palate and went up a little to the left, as the occiput was on this side. It passed probably just in front of the mastoid and went through readily. When fluid and brain substance flowed freely, the perforator was withdrawn, a hook passed and its point turned toward the base

of the foetal skull. The collapsed head was readily extracted, proving to be a striking example of this abnormality. The upper uterine segment was found to contain a greatly enlarged placenta and a quantity of blood.

In previous attempts by the attending physician to deliver the child, in which traction and forceps had failed, a rent into the bladder had been made three inches above the external os. Two fingers passed readily into the bladder. Expectant treatment was advised, and within two weeks the fistula had healed spontaneously.

Prolonged and grave sepsis followed. Indurated masses at the level of the main belly of the psoas on each side seemed the chief foci of infection weeks after delivery. The pelvis was clear. Incisions were made above Poupart's ligament, the peritonæum was raised and the brawny, dusky, infiltrated areas were freely opened up and drained. As is usual when such foci are operated on early and before free pus-formation and walling off, the improvement was not seen at once in any striking way. But very fair progress for a patient in a profound typhoid condition followed, with ultimate recovery. This is one of the early cases of so-called psoitis, post-puerperal.

As a contrast to the above I quote a case wherein the elongation of the birth-canal took place, not at the expense of the lower uterine segment, but in the vaginal walls.

High Retraction Ring from Elongation of Vaginal Walls.

Case III.—I was called to see a vigorous Swede, who had been delivered of a six-pound twin at five in the morning, the pains being efficient, the vertex presenting and the process not difficult. The second child, which was larger, was at once driven down into the pelvis by the strongly-contracting uterus, in transverse presentation, the left arm presenting, the dorsum in front. When I arrived, 9.30, I found a firmly impacted shoulder, an excessively thin lower segment, a well-marked retraction ring exactly at the navel, and the child not living. Drs. Hartt and Bennett had faithfully tried to turn, first in the knee-chest position, and then under complete chloroform relaxation on the back, but so continuous was the uterine contraction and so firmly driven down was the child, that it was impossible. The catheter drew a drachm of blood. I placed the patient in the Trendelenburg-Walcher posture, after completely anæsthetizing her; I got ready for embryotomy and also to operate for rupture, for the thinning of what I deemed to be lower uterine segment and vagina was beyond anything I have ever seen

and the child had been impacted for five hours deep in the pelvis. By very gentle manipulation I was able, owing to the relaxation produced



Fig. 7.--In Case III. Diagram of paresis of the lower section of the birth-canal, the vagina, in Case III. C. R., retraction. Compare with Fig. 3. (About $\frac{1}{4}$ life size.)

by chloroform, plus this position of the uterus, to do a podalic version in ten minutes, operating during the intervals of vigorous contractions.

After delivering the seven-pound child, I immediately cleaned out the uterus, which was of an hour-glass shape, not removing my hand from within the uterus until firm contraction had taken place after douching. Between inner and outer hands I was able to clearly demonstrate that not only was the retraction ring at the height of the navel, but that the lower uterine segment was so short that after delivery the space between the retraction ring and external os covered less than the length of the body of the third lumbar vertebra, and the upper half of the fourth. The vagina, then, was thinned and stretched during those five hours to the extent shown in the cut. There can be no doubt that without all favoring aids, version under these conditions would have produced rupture. Leakage of urine into the vagina ceased in a few days.

Case IV.—Over-distended Vagina, causing Prominence above Pubes, with Rent in Posterior Fornix.

Mrs. W., about 33 years old, has had four hard labors. The first, forceps and still-born. The second child lived, its size not known.

The third, forceps-delivery, was a still-birth. The fourth, twins that lived. She was seen by me on the 24th of December, 1898, after her fifth labor had been under way more than twenty-four hours. Forceps had already been applied several times and slipped. The mother's pulse was 145 but not very weak. Her pains were powerful. The child lay in the ROA position, the head fairly engaged and well flexed, partly rotated and with sutures lapping under a large caput. Half way between the symphysis and the navel, a transverse groove was very evident. Above lay the rigid uterine body, below, a compressible domed protrusion feeling like an over-distended bladder. The diagnosis was high retraction ring, and it was a cause of surprise that the careful use of the catheter passed in amply far brought only two ounces of urine. The flabby bulging remained above the symphysis. In a small part of this bay-window lay the child's shoulder. This area was dull on percussion. The fetal heart could not be differentiated from the rapid maternal pulse. In the arched dorsal posture, the hand passed frankly into the vagina confirmed the diagnosis by finding the ear. A rent high in the posterior vaginal wall existed, admitting three fingers. The right ischial spine was very prominent. The pelvimeter had been forgotten and there were no minutes to loose. The Jewett axis-traction forceps delivered the head in about seven minutes without great expenditure of force. It was well moulded. I promptly slid a hand into the uterus, found it full of blood, and peeled

the placenta away, mostly in the mitten of membranes. The placenta lay in the fundus. From external os to retraction ring was about $1\frac{1}{2}$ inches, and, strange to say, this part of the uterus seemed to be as vigorously *contracting* as the body of it both before and after the placenta was out. The external os lay at the level of the cartilage between the third and fourth lumbar vertebræ. This was noted before the hand had entered the uterus, and showed a disposition to stay there when the uterus was empty and firmly contracting. A very hot-water douche was given and the total blood-loss was not significant. As the douche was ready, it took but a very few minutes to empty and douche the uterus and secure its firm contraction.

The interest of this case lies in the over-distended vagina and its bulging out above the symphysis in a way suggesting retention of urine. Such stretching resulted in a tear. A forceps blade would not have been forced in directly posteriorly. After delivery three fingers passed freely through the rent behind the uninjured cervix and to the rear of the uterus to a point just above the retraction ring. The fingers of the other hand, examining through the abdomen behind the uterus, met these fingers and determined that there lay between inner and outer finger-tips a layer of peritonæum only.

Rupture of Uterus with very Long Injury; Subsequent Easy Labor.

Case V.—Mrs. E. C., had one child in 1889, delivered by forceps with great difficulty, her doctor says. It was still born. In October, 1891, two physicians were two and a half hours at work with the forceps before I was called. The difficulty was an occipito-posterior position of a head too large for her pelvis, the head being engaged. Part of the child was probably in the peritonæal cavity. Shock was considerable. The Tarnier forceps slipped on easily, and extraction was simple. A rent in the posterior wall of the uterus and of the vagina admitted the hand freely to the peritonæal cavity. The uterus contracted very fairly, so that the tear was in contact with the sacrum and the lumbar spine, and no intestine showed a disposition to protrude through the slit. I heard that she was four months in bed with fever, and was long in grave danger of her life.

She came to me, pregnant for the third time, with the request from her doctor that I should care for her. The external conjugate was $6\frac{3}{4}$ inches (17 cm.); the diagonal conjugate $3\frac{1}{2}$ inches (9 cm.); the symphysis, $2\frac{1}{2}$ inches high (6.5 cm.). She can give no date for last period, but at her first visit the fœtus was large enough for $7\frac{1}{2}$ months.

A thick scar, solidly adherent to the sacrum, runs up half the length of the posterior vaginal wall and as much of the cervix as is within reach. One-third of the circumference of the cervix, posteriorly, seems to be



Fig. 8.—Scar of rupture of uterus and vagina, extending from fundus to mid-vagina. Thick adhesions extend from the first lumbar vertebra to the third sacral. (About $\frac{1}{4}$ of life size, diagrammatic.)

missing. Dr. Charles Jewett, in consultation, fears that a long labor, such as Mrs. C., is addicted to, would entail risk to the scar, he advises Cæsarean section at term. She was offered her choice of this or induc-

tion, and her priest acquiesced in either plan. So she disappeared until within two weeks of the calculated full time, and turned up in labor well advanced. The cervix dilated easily, a well-moulded head was being pushed down with little effort into the flattened pelvis, and she was therefore watched, the operating outfit being ready. After she had happily delivered a small child, I passed my hand fully into the uterine cavity to map out the scar. Beginning below at the middle of the posterior wall of the vagina, to the left of the median line, at the external os it was still a little to the left. In the wall above, it swung first to the right of the center, then, high up in the uterus, turned sharply to the left, crossing half of the rear wall of the uterus not far from the fundus in a horizontal direction, reaching to the broad ligament. Whether this upper part of the scar, which is apparently in the body of the uterus itself, represents a laceration that extended completely through the peritonæal layer at this part, I am unable to say, of course. This horizontal portion of the scar seems thinner than that below. Recovery was smooth.

This last case may, I think, be fairly supposed to be intermediate between the *two classes* of which examples have been given, namely, *those with extreme elongation and thinning of the lower uterine segment, and those with stretching and perilous thinning of the vagina.* With the higher degrees of contracted pelvis the vagina before labor is long and perpendicular, and the cervix high. Here, both the uterus and vagina were liable to injury from the stretching, unless, indeed, the forceps blades were punched through or dragged through the posterior vaginal wall, a thing unlikely with two men of experience.

Case VI.—Retraction Ring below Navel.

Mrs. B. J. S., 28, in her fifth labor, was seen after it had lasted twenty-one hours and both arms were down. She had had five hours of powerful pains. Her pulse was weak at 100, the uterus tense, and the retraction ring clearly defined half-way between navel and symphysis. The original position was a right scapula anterior. The prolapsed cord had been replaced and attempts at version made by Drs. Scrimgeour and Chauncey Fowler, both in the knee-chest position and under complete anæsthesia, but the vigor of the uterine contractions led them to desist for fear of rupture of the uterus. I placed her in the arched dorsal posture under ether. (See *Am. Journal Obst.*, Dec., 1898.) Ether was used on account of the heart, though it does not

relax the uterus as thoroughly as chloroform. The child was solidly impacted, with marked elongation of the neck, so that my first impression was that fixation in the presence of the thinned lower uterine segment and tense retraction ring, would make any other method than decapitation dangerous. But while palpating, the tension gradually yielded, owing, probably, to the posture. Then counter-pressure over the fundus, assisting the hand, which was worked cautiously in toward the nearest knee, effected version with all gentleness. The placenta was removed manually and lay high up. No bleeding occurred. The pulse after operation beat 96. The manipulations had been rapid and easy.

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AN ELECTIVE CÆSAREAN SECTION.*

BY G. M. BOYD, M.D., PHILADELPHIA.

Clinical Professor of Obstetrics, Medico-Chirurgical College; Physician to the Philadelphia Lying-in Charity.

Until we possess better methods than we have to-day for estimating the size of the fœtus, particularly the size of the cephalic extremity during pregnancy and in labor, the best method of treating cases of difficult or obstructed labor will remain problems *hard to solve*.

In a few cases the obstruction is sufficiently great to make the obstetric operation absolutely indicated, but in the majority of cases some doubt will exist.

The indication will be only relative. To reach a solution of the problem we must study not only the pelvis but also the size of the fœtus, the degree of ossification of the fœtal skull. We must also study the previous pregnancies and labors, *if any*. With the history of a hard labor, or more than one, ending disastrously to the child and an existing pelvic deformity, it may be comparatively easy to select the wisest course to follow, but if the same patient is a primipara or has given birth to one or two living children, it is difficult to decide.

Such a case must be given the test of the first stage of labor. If now the obstruction remains as great, the operator must determine

*Read before the Philadelphia Obstetrical Society, January 5, 1899.

upon the method of interference. Shall it be forceps? Version? Symphyseotomy or the Cæsarean section?

The case reported illustrates this larger group of cases.

Mrs. K., a white multipara, aged 40 years, was referred to the Medico-Chirurgical Maternity, October 3, 1898, by Dr. W. S. Stewart.

She had six pregnancies, the first, second, and third going to term, in the fourth, fifth, and sixth labor was induced at about the two hundred and fiftieth day of gestation. She is now pregnant for the seventh time and well advanced in the last month.

The first and second labors were long and difficult, failing with the forceps, it was necessary to perform craniotomy to accomplish delivery.

At the third labor Dr. Stewart attended, he tells me that it was very difficult, finally, after persistent effort with axis-traction forceps she was delivered of a dead child.

In the fourth pregnancy, because of the complications existing at term, premature labor was induced, but again difficulties were encountered and a dead infant.

The fifth and sixth pregnancies were also terminated before the end of gestation with the same fatal result to the infant.

With this history of six pregnancies ending disastrously to the child she was admitted to the maternity. She was a healthy woman of average height, quite corpulent. Her last menstruation period was January 1, 1898, so that we would expect her delivery October 8th. As she stands the abdomen is pendulous, which in itself sometimes indicates pelvic deformity.

External palpation confirms the menstrual history she is near term. The foetus is large, cephalic extremity presenting.

Internal examination shows the perinæum extensively lacerated, she has bulging cystocele and rectocele. The cervix is also lacerated and dilated to the extent of admitting two or three fingers the amnion slightly bulging. In cases of reported difficult labor where more or less damage to the cervix has taken place occasionally this gaping cervix is recognized weeks before labor, and might mislead the examiner.

The cephalic extremity is high movable above the pelvic brim, the head is well ossified.

The study of the bony pelvis explains greatly the difficulties encountered in the past. It is contracted, resembling somewhat the funnel-shaped pelvis, the outlet of which is greatly contracted transversely. The depth of the pelvic canal is much increased.

It was quite evident that to allow the patient to fall in labor and let Nature again take her course would be fatal to a good result.

Pubic symphyseotomy suggested itself to me as a possible means of overcoming the obstruction, but the type of pelvis contraindicated other procedure.

Then again we were dealing here with an obstructed labor due not only to the pelvic deformity but also to the excessive growth of the child. Delivery *per vias naturales* excluded there was left but one course of procedure, abdominal section. To this the patient (anxious for a living child) consented.

With the assistance of Dr. Elliston J. Morris we performed the elective Cæsarean section.

It is well always just before operating, to listen for the foetal heart. We have anticipated this and sterilized a stethoscope so that direct auscultation is not necessary. It is heard distinctly on the right side on a line with the umbilicus.

In performing the conservative Cæsarean section the uterine incision should be as small as is consistent with easy delivery of the child, great care being observed in making it longitudinal to the long axis of the uterus. The child should be delivered through incision slowly in order that the uterus may be given a little time to contract upon its contents. See that the uterus is well contracted upon the placenta then it can be slowly removed. By following this course there will be less danger of hæmorrhage and failure of the uterus to contract necessitating hysterectomy.

The child was very much over size when delivered. It suffered from ether-narcosis but in a short time was vigorously crying.

The puerperium was uneventful, the mother and infant leaving the hospital four weeks after operation. There exists a difference of opinion among the American Cæsareanists as to which is the better method—Sanger-Cæsarean or the Porro-Cæsarean. It seems to me that the nature of the obstruction to labor, and the condition of the patient must be the determining factors.

Cœliohysterectomy should be performed when the uterus is infected, when it is the seat of a myoma, or a malignant growth; also when the patient desires its removal. Cœliohysterotomy should be performed when the uterus is healthy, when the patient is in good condition and does not wish the uterus removed.

To perform cœliohysterectomy simply for the purpose of preventing future pregnancy seems to me unwise, if by simply ligating or removing the Fallopian tubes (a less-mutilating operation) we can accomplish the same purpose.

THE VALUE OF ETHYL BROMIDE IN GYNÆCOLOGY AND OBSTETRICS.*

BY FRANK C. HAMMOND, M.D., PHILADELPHIA,

Anæsthetizer, Gynæcological Clinic, Jefferson Medical College Hospital.

This paper is presented this evening more with the idea of bringing forth a discussion and to point out the value of ethyl bromide to those who have not employed it.

The examination under anæsthesia has a broad field of utility which is being more fully appreciated by the gynecic surgeon.

"In this way alone are we enabled to palpate the whole peritonæal surface of the uterus, anterior as well as posterior, together with the ovaries and the tubes. If the patient be highly sensitive, if there be tympanites, or if the abdominal walls are thick and vaulted, it may be impossible to exclude the presence of myomata, and lateral inflammatory disease, by the usual methods of examination, and the uttermost the gynæcologist will be able to affirm in his notes will be 'tenderness' or 'sense of resistance in the fornices' or 'probable pelvic inflammatory disease.' The examination under anæsthesia at once answers the query completely and satisfactorily as to 'neurosis' or 'inflammation' or 'tumor.'" (Kelly, *N. Y. Med. Jour.*, Nov. 25, 1893.)

By this procedure there has been repeatedly found present diseases calling for immediate operative treatment in patients who have been examined in the ordinary manner, and had been treated locally. A rigid abdominal wall, and the employment of the conjoined manipulation in the unmarried, often require an anæsthetic to afford a satisfactory pelvic examination.

Ether can be used for this purpose but owing to its penetrating odor, the amount of time required to place the patient under its influence, and the disagreeable post-anæsthetic disturbances it is objectionable.

Chloroform is preferable to ether because it requires but a small amount to render the patient unconscious, its action is soon over, and its after-effects are materially less than those of ether.

The ideal anæsthetic for this purpose, however, is ethyl bromide. It requires but a very small amount, the return to consciousness is very rapid, almost as soon as the examination is completed, and the post-

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anæsthetic affects are practically nil. This is the anæsthetic for office use as the patient invariably can leave for home within a few minutes after its administration.

This agent, discovered by Serullas in 1827, was first proposed as an anæsthetic by Dr. Thomas Nunelly in 1849. In 1876-77 it was seriously considered by M. Rabuteau in France, and Laurence Turnbull in the United States. The early writers and experimenters with this agent included besides its discoverer, R. Marchand, Pierre, Löwing, and Robin. In this country Drs. Laurence Turnbull and E. E. Montgomery have championed its employment.

In my article on "Anæsthesia and Anæsthetics with a Plea for the More General Employment of Chloroform and Ethyl Bromide" (*Therapeutic Gazette*, August 15, 1898), this latter agent is referred to as follows:

"This drug is very seldom used at the present time owing to the reluctance with which the profession accepts it. In the hands of Dr. E. E. Montgomery and others it has proven satisfactory, and he has found a field for its employment. It is a hydrobromic, or bromic, ether, an inflammable volatile liquid, with a burning taste, and an odor not unlike chloroform; its boiling-point is 38° C.- 40° C. This is not ethylene bromide which is poisonous. It is not caustic, nor even irritant, when compared with chloroform, and can be ingested without difficulty. This drug is supposed to possess properties intermediate between those of chloroform and ether. Dr. Laurence Turnbull was the first to experiment with this ether upon man. He makes the following statement (*Anæsthetic Manual*): 'I found it was colorless, with an agreeable odor and pleasant taste, the boiling-point, 40.9° C., and its density heavier than water. When inhaled it produced more of the agreeable effects of chloroform, and did not increase the pulse over its normal beat, whilst its action was very rapid. It leaves an odor of mustard to the body. There is a pricking feeling of the skin at the elbow and in the hands, with a rapid loss of power to move; the skin is in a few instances moist, but in the majority of cases is natural. It differs from ordinary ether in the stage of excitement being short, the sedation and subsequent elimination rapid.'"

My observations from the use of this drug as an anæsthetic substantiates the above, with the following addition: There is a primary dilatation of the pupil, and the conjunctiva is congested, which condition passes away in a few minutes. Of course this refers to general anæsthesia.

Turnbull in 1879 reported (*Anæsthetic Manual*) the results in his first 21 cases, His deductions were as follows :

Shortest time taken to place a patient under the anæsthetic influence, 30 seconds.

Longest time, 5 minutes.

Average time, 1 minute 30 seconds.

Smallest quantity of hydrobromic ether, two inhalations from sprinkled handkerchief.

Largest quantity of hydrobromic ether employed, two ounces.

Vomiting occurred in three cases after the administration; excitement (hysterical) in two cases; prostration in one case, but no alarm felt concerning the patient's life; no asphyxia; no fainting.

The advantage of this agent is the short space of time required to render the patient unconscious, the small quantity of the drug employed, and the rapidity of its elimination from the system, which is by the respiratory passages.

H. C. Wood (Dennis, "System of Surgery," page 655, vol. 1) writes as follows: "Dr. Giles claims that there was given in Germany during three years twenty thousand administrations without a single fatal issue, and that there is no fatal result on record in which it has been proven that a chemically pure bromide has been administered. This statement is, however, at present not correct. Sixteen cases of death from the ethyl bromide have been collected by Dr. Reich, and of these in five the bromide is asserted to have been pure. It is remarkable that out of the seven cases in which any information as to the time of death is given, in only two did death take place during the narcosis, in the other five cases it occurred from one to three days after."

The cause of death during narcosis is paralysis of the respiratory tract. Autopsies on patients dying a few days after the administration reveal fatty degeneration of the liver, kidneys, and heart, either alone or combined.

The statistics in the above quotation, twenty thousand administrations without a fatal issue, combined with many more that have been collected from various observers, places this agent on a safe plane, and sanctions its usage.

The employment of a pure drug must be insisted upon. Even in the fatal cases where a pure drug was supposed to have been used there is recorded in a few instances the fact that the drug had a yellowish tinge. In at least 80 per cent. of the list of deaths examined an impure product was employed.

The Method of Administration.—A towel is used, pour thereon

about a drachm of the ethyl, and apply the towel over the nose and mouth holding the edges snugly to the face, add the same amount every few seconds until narcosis is complete. By excluding the air, the patient is more readily placed under its influence. Should rigidity supervene, do not push the anæsthetic, but withdraw the drug until relaxation occurs.

"In the presentation of any anæsthetic for general obstetrical use, the profession have the right to demand that it shall be shown to be absolutely safe for mother and child; that it will not cause uterine inertia, thus increasing the danger of post-partum hæmorrhage; nor induce acute inflammatory conditions in the organs by which it is eliminated, complicating the puerperal stage. (Dr. E. E. Montgomery, *The Amer. Jour. Obstet. and Dis. of Wom. and Chil.*, vol. xviii., No. 6, 1885.)

Ethyl bromide has been given a thorough test, and has emerged from it nobly. It eases the pain quickly, the patient retains her intelligence, it does not suspend involuntary nor voluntary muscular contractions, and does not predispose to inertia uteri, nor post-partum hæmorrhage.

It is a muted point with many observers regarding the employment of an anæsthetic during parturition. This subject does not come under the scope of this article. We should leave no stone unturned, however, to relieve a parturient. A narcotic of this kind, especially in primipara has a tendency to quiet the over-excited and nervous condition, which will prove a large element in the successful conduct of the labor.

Since the introduction of anæsthesia into obstetrics by Simpson, we have sought carefully for an ideal agent, and have found it at last in ethyl bromide. Lebert (*Archives de Tocologie*, June, 1882) first employed it in obsterics. He published four cases, a forceps operation, two normal labors, and a version. He referred to it with such enthusiasm that many observers followed in his wake.

Ethyl bromide is without doubt the unappreciated anæsthetic, so much so, that only four or five of the various text-books on gynæcology and obstetrics refer to it. Even Kelly in his admirable article on "Anæsthesia" in his late work, does not mention it at all.

The employment of this drug during labor should be limited to the second stage, excepting in primipara when the pains of the first stage become excruciating and unbearable. It should be administered with the advent of each pain by holding over the face a napkin or other suitable material on which a few drops have been poured. With the small quantity thus administered the "keen edge" is "taken off" the pain, and the parturient remains sufficiently intelligent to carry out orders as given

by the accoucher. Patients who have had chloroform and ether administered during their confinements, and who have subsequently taken ethyl bromide unanimously agree that their suffering are relieved more quickly, and with less of the disagreeable after-effects.

To conclude, ethyl bromide is the anæsthetic by choice. (1) Gynæcological examinations, in incising abscesses in the abdominal wall, in making vaginal puncture for the removal of pelvic accumulations, for the removal of stitches (when a narcotic is indicated), for incising a vulvo-vaginal abscess, or any like procedure of short duration, say 10-15 minutes.

(2) In obstetrics—during parturition, for performing version, forceps application, or any obstetrical operation of brief duration.

Ethyl bromide has its distinct field, and is preferable when so employed to either ether, chloroform, or their solutions.

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EDITORIAL.

.. HÆMOSTASIS IN LAPAROTOMY.

No subject, perhaps, in the whole operative field has received more thought and experimental test, is therefore more interesting because vitally important, than the perfect method of securing the stump and other vascular tissues in abdominal work. We consider this subject as especially opportune for editorial comment this month because it will serve perhaps to call our readers' attention in an especial manner to an interesting paper by Dr. Skene of Brooklyn, published in this issue, in which he describes a new method of hæmostasis devised by himself and so nearly perfect that he deserves the profoundly appreciative gratitude of the entire profession.

There is probably no suture-material known which has not figured as the hæmostatic agent in laparotomy, from kangaroo-tendon and silkworm-gut through silk and linen to silver and iron wire. Each of these has been successfully used; in fact hæmostasis itself is so easily obtained that it is difficult to understand, at any rate from an abstract point of view, how secondary hæmorrhage can ever occur except through careless technique on the part of the operator. It is the after-effect of the suture-material, its irritating presence as a foreign body which, as we know, makes the question of hæmostasis in the abdomen of such paramount importance. The attainment of this result without the introduction and the temporary or permanent leaving-behind of

foreign material has been, like wireless telegraphy, a dream of eventualities.

Dr. Grad of New York made a distinct advance in this direction when, as House-Surgeon at the Woman's Hospital, he invented a knot which could be untied with the removal of all suture-material within the shortest possible time necessary for permanent hæmostasis. Then came the equally efficacious though clumsier method of temporary clamps. But unfortunately both these methods were only available in cases of an opening through the vagina.

And now Dr. Skene has given us the method so long sought for which enables us, within the short space of three minutes, to obtain permanent hæmostasis, absolute asepsis and anæsthesia of the stump without the use of any suture-material whatever. He does not claim originality for the principle involved in this method. He gratefully gives the credit to his old instructor and friend, the late Dr. Keith of Edinburgh, in whose debt the whole medical world must always remain; but the perspicacity which enabled Dr. Skene alone among so many of us who had the privilege, as well as he, of seeing Dr. Keith apply his principle—the perspicacity, we say, which applies a principle, originally involved in a method so cumbersome as to be of very limited availability, to a means at once simple and universally applicable is so much like originality that the difference is little more than a fine distinction in terms.

In our opinion, more important than any other advantage which Dr. Skene's method of hæmostasis has over the old use of sutures is that it leaves the stump, after amputation, in its normal relation to the surrounding tissues. Where it is impossible with the suture to avoid bunching the pedicle and thereby causing traction and marked displacement of the tissues contiguous and contributory to the stump, with Dr. Skene's hæmostatic-forceps the length and breadth of the pedicle is preserved. Thus, not only is the pain obviated, so commonly experienced by patients in the neighborhood of the stump and accurately described as "a dragging sensation," but the worst and commonest result of oöphorectomy, for example, displacement of the uterus due to the necessary shortening of the broad ligament by the stump suture, is overcome.

We have ourselves employed this method frequently with absolute satisfaction in our hospital work during the past few months. In one respect only may the *écraseur*, a revived method of sutureless hæmostasis now being submitted to experience, lay claim to a limited advantage over the method of Dr. Skene. The necessity for an electric bat-

tery of high voltage is an element of inconvenience in private practice. But in hospital practice, where the presence of such a battery is to-day a *sine-quâ-non*, this objection finds no place.

It is impossible at the present writing to draw a just parallel between these two methods, because the use of the *écraseur* under modern operative conditions has not yet undergone sufficient test to establish its claims.

MAL-POSITIONS OF THE UTERUS.

In the *Transactions of the Chicago Gynecological Society*, published in this number of the JOURNAL, is a very interesting Discussion of this subject. The Discussion consists of several original papers, which present the subject from its various aspects, and of a general discussion upon the latter. The greatest interest, undoubtedly, attaches to the paper of Dr. E. C. Dudley, which opens the theme and, under the caption *General Principles, Indications and Contra-indications of Mechanical Support of Uterine Deviations*, lays down and explains in a masterly and very lucid manner the true causes of uterine displacements and defines exactly the mechanical laws, by an appreciation of which alone can this whole subject be understood and the normal condition of this organ be restored.

The principles of mechanics enunciated by Dr. Dudley as the laws governing uterine displacements and their relief are exactly those discovered and published by Dr. Thomas Addis Emmet over thirty years ago. Dr. Dudley is indeed to be congratulated in that he has so thoroughly mastered this subject, for he is among the very small minority, strange to say, of Dr. Emmet's former pupils at the Woman's Hospital in New York who have completely understood and are capable of defining his teachings on this, the basic principle of gynecology.

It is perhaps unreasonable to expect that an interne in a special hospital shall take in and digest in eighteen months even the fundamental principles of a specialty but, be this as it may be, it is indeed the fact that, however great the desire to propagate his theories and practice on their part, the majority of his quondam pupils in their later attempts to follow in his footsteps honor his teachings more "in the breach than in the observance." And this seeming paradox is due to the fact that many men attempt to digest in a "half-baked" condition impressions and thoughts derived from other men and the mental indigestion thus produced does not conduce to a lucid and comprehensive understanding. It is further true that to-day the most eminent of Dr.

Emmet's followers, among those who advocate and clearly appreciate the meaning and scope of his pathological principles and plastic work in gynæcology are, with some exceptions, not among those who worked under him at the Hospital and heard his teaching daily but among outsiders who availed themselves of the privilege of frequent visits to his clinics there.

For these reasons it is with much satisfaction that we commend the paper of Dr. Dudley to the careful perusal of our readers, for he there states and defines Dr. Emmet's teaching as clearly as the latter himself did so many years ago in his "Principles and Practice of Gynæcology" and as he still does to-day.

OBITUARY.

JAMES H. ETHERIDGE, M.D.

It is with sincere regret that we learn of the recent death of Dr. Etheridge of Chicago. He was in the prime of life and should have had still many years to his credit. In his profession he had long won an enviable distinction and stood, at the time of his death, in the front rank of American gynæcologists. To our readers especially his loss will be a great one, for his name appeared both as a contributor and still more frequently in the discussions of *The Chicago Gynæcological Society*, of which he was a very prominent and active member. All his writings and discussions were distinguished by acumen, thoughtfulness, deliberateness of statement and tolerance for the opinions of those who differed from him. These qualities were characteristic of his private life as well. Add to these traits a genial, kindly nature and a manly directness of manner and it is not remarkable that he immediately won for himself friends and admirers in every concourse of medical men. In the *Transactions of The Chicago Gynæcological Society*, which are published in this JOURNAL, will appear at a later date a full obituary of Dr. Etheridge, in which our readers will be able to learn in detail about his professional life and the excellent work in his specialty which justly entitled him to prominence. At the time of his death, Dr. Etheridge was Professor of Gynæcology in the Rush Medical College, Chicago, and was a Fellow of all the more prominent medical societies in this country. He made for himself a distinct place in the world of medicine—and filled it.

REVIEWS.

The American Year-Book of Medicine and Surgery. A Yearly Digest of Scientific Progress and Authoritative Opinion in All Branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-Books of the Leading American and Foreign Authors and Investigators. Collected and arranged, with critical editorial comments by S. W. Abbott, M.D.; John J. Abel, M. D.; J. M. Baldy, M.D.; C. N. Burnett, M.D.; Archibald Church, M.D.; J. C. Da Costa, M.D.; W. H. N. Dorland, M.D.; L. A. Duhring, M.D.; D. L. Edsall, M.D.; V. P. Gibney, M.D.; H. A. Griffin, M.D.; J. Guiteras, M.D.; C. A. Hamann, M.D.; Alfred Hand, Jr., M.D.; H. P. Hansell, M.D.; Milton B. Hartzell, M.D.; B. C. Hint, M.D.; E. F. Ingals, M. D.; W. Johnson, M.D.; W. W. Keen, M.D.; H. C. Ohls, M.D.; W. Rehr, M.D.; D. Reisman, M.D.; L. Starr, M. D.; Alfred Stengel, M.D.; G. N. Stewart, M.D.; J. R. Tillinghast, Jr., M.D.; J. Hilton Waterman, M.D. Edited by G. M. GOULD, M.D. W. B. Saunders, Philadelphia, Publishers.

From the enormous and ever-increasing mass of medical literature a practising physician cannot possibly keep up with the advances made in all departments of medical science without the aid of such a volume as the one before us. The preceding Year-Books have been of the highest standard, and the present volume has maintained that standard. The most important change to be noted in the present Year-Book is the omission from the list of contributors of the name of Dr. William Pepper, whose death has removed one of the bulwarks as well as ornaments of the medical profession.

To the specialist the Year-Book should be particularly valuable because with a minimum amount of labor he can inform himself of the progress made in every branch of the science.

Between its covers is the condensation of all that is valuable in the books and journals of the past year.

In obstetrics the most striking feature of the year has been the great impetus noted in the microscopy, especially of foetal pathology, and pathology of foetal appendages.

The true nature of malignant deciduoma is being understood, as are the origin and function of placental tissue and the nature of menstruation and the relationship that exists between the female generative or-

gans and the other organs of the body. Puerperal sepsis has attracted considerable attention.

In gynæcology one is struck with the change that has come over the abdominal surgeon during the past year. The radicalism that formerly was in vogue has given place to extreme conservatism. The efforts that are being made to save organs instead of removing them are highly commendable.

Organotherapy is coming more into use and remarkable results are being reported from this line of treatment.

Marked improvements have been made in the technique of some of the surgical procedures.

Pædiatrics as an important branch of medicine is receiving greater attention each year. Special attention has been given to the care and management of children individually and in schools and public places.

The binding, paper and excellent typographical work is in keeping with the other high-class productions of this publisher.

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL
SOCIETY.

Stated Meeting, January 18, 1899.

The *Vice-President*, THOMAS J. WATKINS, M.D., in the Chair.

Experimental Implantations of Ureters in the Bowels.

DR. FRANKLIN H. MARTIN: I have to present the specimens and post-mortem findings from three dogs in which the ureters were implanted in the rectum.

Dog No. 1 was operated on at the Post-Graduate School, January 7, 1898. Both ureters were implanted in the rectum at a distance of from four to six inches from the anus. The animal recovered from the primary operation promptly and lived in apparent comfort until within a few days of May 14, 1898, when he suddenly died. During the months between the operation and the death the rectum of the animal acted as a perfect substitute for the bladder. There was no leakage of the sphincters, and he would hold the urine without apparent irritation for six to eight hours when he would void it voluntarily. It did not seem to produce diarrhœa at any time. The dog would have a fæcal movement of the bowels once or twice a day independently of the urinary movement. The dog died of double septic nephritis, May 14, 1898, with general pyæmia. Dr. Zeit of Professor Klebs' laboratory will make the pathological report. Both ureters remained pastulous.

*Pathological Report on Dr. Franklin H. Martin's Cases of Implantation
of Ureters into Intestine.*

DR. F. R. ZEIT (of the Klebs' Pathological Laboratory): Dr. Martin has requested me to make a very brief pathological report of his cases in explanation of the macroscopic and microscopic specimen before you this evening.

Case I. (May 14, 1898)—Dog, weighing 52 pounds. Post-mortem seven hours after death. *Implantation of both ureters into rectum* four months ago. Legs œdematus. Purulent fluid in subcutaneous tissues containing coli bacilli, small diplococci, and streptococci. The whole intestinal tract is of a peculiar translucent, waxy appearance with thick-

ened swollen walls—amyloid degeneration. Colitis and ulceration in transverse colon. (Specimen 4.) (Microscopical specimens present and examined by members of society.) Coli bacilli were found in the mucosa and submucosa. (Specimen 14.) The liver shows thrombosis of portal vein, passive hyperæmia, and atrophic areas (Specimen 13). No bacteria were found and cultures gave no growths. Amyloid degeneration of vessels of spleen (Specimen 12). Cultures from the spleen gave no growth and no bacteria were found in sections of the spleen. The bladder was empty and atrophic, with pale-yellow areas, size of millet-seed, surrounded by hyperæmic zones. Cultures gave a good growth of staphylococcus albus and a few colonies of coli bacilli. Sections show small cell infiltrations in mucosa and submucosa (Specimen 5). Kidneys both large and soft. Pelvis of both kidneys and ureters containing yellowish purulent fluid with coli bacilli and small diplococci (Specimen 1). Cultures only gave growths of coli bacilli. Sections of kidneys show intestinal small-cell infiltrations, some cloudy, swelling, and granular detritus in the tubules (Specimen 3). A few coli bacilli were found in sections near straight tubules (Specimen 2). Blood from both sides of heart gave no cultures. Pure cultures of the coli bacilli obtained from pelvis of kidneys proved pathogenic to rats and guinea-pigs by intra-abdominal injection. Laboratory cultures, frequently transplanted, were used on control animals and were non-virulent.

Dr. MARTIN: Dog No. 2 was operated on December 17, 1897, and died November 16, 1898. In this animal I picked up at random a small intestine and implanted into it one ureter. The post-mortem showed that I had implanted the ureter into the jejunum. The dog lived without discomfort after this operation and differed from the other two only in the fact that the passage of the urine was always accompanied by fæcal matter. The attendant claimed that the dog got exposed and died of cold. The implanted ureter in this case was patulous and the kidney of the operative side free from suppuration.

Dr. ZEIT: *Case II.* (November 15, 1898).—Medium-sized dog. Post-mortem ten hours after death. Operation eleven months ago. *Implantation of Right Ureter into Jejunum.* This dog was emaciated. No other external signs. The intestine appeared normal. Right ureter entered small intestine $8\frac{1}{2}$ inches from pyloric orifice. Small intestine from here to cæcum measured $13\frac{1}{2}$ feet. The large intestine measured 25 inches. The right ureter enters the jejunum at an angle. The right kidney is only half the size of the left and its pelvis and ureter contain a thick yellow purulent fluid with oil globules, coli bacilli,

and small diplococci. Yellowish striæ are seen in the pyramids and glomeruli are marked out as red dots. Water, poured into pelvis of the kidney passes into intestine. Cultures from pelvis of this kidney gave growths of coli bacilli and small diplococci. Sections show intestinal small-cell infiltration, dilated uriniferous tubules and capsules. Lining epithelium partly denucleated and atrophic. Pyelonephritis of a very mild character due to ascending infection by coli bacilli. (Specimen 7.)

The left kidney is large and soft, with well-marked glomeruli in the yellowish cortex. Microscopically we find cloudy swelling of epithelium of convoluted tubules. The latter contain some granular detritus. No interstitial changes. Parenchymatous degeneration. (Specimen 6.) Liver hyperæmic. Thrombosis of portal vein with passive hyperæmia and atrophic areas in peripheral zones. (Specimen 8.) Spleen slightly anæmic, other organs normal. No micro-organisms in spleen, liver, or heart.

Dr. MARTIN: Dog No. 3 was operated on February 25, 1897, and died December 19, 1898. Here one ureter only was implanted in the rectum. This dog recovered promptly from the operation, was never sick, or apparently in discomfort after the immediate effects of the operation passed off until within a week of his death, when his appetite failed, temperature developed, and he died suddenly. He lived comfortably and passed urine from the rectum about every eight hours. The ureter had remained patulous.

Dr. ZEIT: *Case III.* (December 19, 1898).—Medium-sized dog. Post-mortem two days after death. Operation ten months ago. *Implantation of the left ureter into rectum.* No external signs except emaciation. Intestine normal. Right kidney twice the size of the left. The ureter of the left kidney passes into intestine $9\frac{1}{2}$ inches above anus and water poured into pelvis of kidney trickles slowly into the rectum. Very few coli bacilli and diplococci are found in the pelvis of this kidney and ureter. Here we probably have an old pyelonephritis of a mild type, resulting in new fibrous tissue with induration and cicatrization of the diseased portions, a cirrhotic contracted kidney (Specimen 15).

Very few atrophic tubules are left, the epithelium in most of them being necrotic. A few areas with cellular infiltration are still present in the indurated fibrous stroma. (Specimen 9.)

The other organs were found normal except large organized fibrous thrombi in both ventricles of heart and a small tumor of the size of a walnut posterior to exit of aorta.

Thinking that it would be of some interest, I have added another

microscopic specimen of a kidney from a dog which had both ureters tied for experimental uræmia, showing severe hyperæmia, enlarged spaces between convoluted tubules, exudation and parenchymatous degeneration (Specimen 11). Macroscopically both kidneys were enlarged and soft, dark-red in color, swollen cortex with hyperæmic glomeruli.

Dr. Martin's cases of union between ureters and intestine are technically perfect and it will be of considerable interest to examine at some future time sections through these parts.

Dr. MARTIN: No attempt was made in any of these cases to protect the ureters from invasion of bacteria from the bowels by any valve device in the technique. The ureters were implanted singly. The anastomosis of the ureter with the bowel was made in each case perpendicularly or at right angles to the axis of the intestine. The operation of implantation of the ureter in the bowels is a delicate and difficult operation. These three dogs represent the successes in 34 dogs operated upon. The other 31 died within one week after the operation from various causes associated with the technique.

I have devised a new operation for implantation of the ureters in the rectum by which I hope to prevent infection of the ureters by the colon bacilli and other bacteria from the bowel. The technique of that operation will be published in the next number of the *Journal of the American Medical Association*. My experiments have been undertaken with the idea of making removal of the human bladder a feasible operation.

Substitute for the Kelly Pad.

Dr. FRANKLIN H. MARTIN also presented a simple substitute for a Kelly pad. It consisted of a yard of ordinary white kitchen-table oil-cloth, which can be found in almost every cottage, spread over a roll made with a large sheet. A large sheet is made into a solid roll about six feet long and three inches in diameter. This is curved to represent the air cushion of the Kelly pad. Over this is thrown the oil-cloth or rubber sheet, one end being left over the edge of the bed or table as shown in the cuts. It has several things to recommend it; its simplicity; its cleanliness; the possibility of obtaining it in any house in an emergency; its perfect substitute for the Kelly pad, and its cheapness.

General Principles, Indications and Contra-indications of Mechanical Support for Uterine Deviations.

BY E. C. DUDLEY, M.D.

Electricity in the Mechanical Treatment of Malpositions of the Uterus.

BY FRANKLIN H. MARTIN, M.D.

Massage in the Treatment of Malpositions of the Uterus.

BY WILLIAM H. RUMPF, M.D.

Tampons and Pessaries in the Treatment of Displacements of the Uterus.

BY T. J. WATKINS, M.D.

DISCUSSION.

DR. ALBERT GOLDSPOHN: Mr. President, I think it is very fortunate that this general theme in minor gynæcology should receive the worthy attention of this audience, because this whole subject deals with the predisposing causes of disease in gynæcology, the predisposing causes to infection as they affect the thousands, whereas the efforts of the major operator are only in behalf of hundreds. In this direction I wish to endorse the general principles and facts as stated by Dr. Dudley, the first speaker. I particularly admire his citation of the opinion of B. S. Schultze of Jena, that benign father in gynæcology, who has obtained great honors, not so much as an operator, but because twenty-five years ago he saw these truths and in all these years has been inculcating normal principles, correct anatomy, correct physiology in the chaos of opinion on this subject that has existed in the army of medical men since then. The good he has done to women in this field is immeasurable; it is beyond the influence of that of the greatest operator. I think Dr. Dudley has omitted to mention one prominent factor: the overpowering influence of intra-abdominal pressure in normally sustaining the uterus in anteversion or holding it constantly in retroversion according as its impact occurs upon the posterior or anterior surface of the organ, the force being transmitted by temporary physiological downward recessions of abdominal viscera into the pelvis during all marked contractions of the diaphragm, etc.

As to pessaries I wish to say that the evils which have arisen in connection with their use are almost altogether to be charged, as Dr. Dudley says, to the man who uses the instrument, and not to the instrument itself; that they are due to the abuse of the pessary, and not its

use. The use of the pessary requires a person who understands the anatomy and normal relations of the parts, who also has acquired the ability, as a bimanual examiner of women, to recognize distinctly what



Fig. 1.—Substitute for the Kelly Pad.

is the normal position and mobility of the uterus, and what is a retroversion without the use of the nonsensical uterine sound, and this knowledge is not possessed by a large number of general practitioners of fair success otherwise, as my own experience will abundantly testify from

coming in contact with a large number of post-graduate students every year, and others in consultation. Therefore, those gynæcologists who think they honor themselves by simply letting loose a tirade on the pes-



Fig. 2.—Substitute for the Kelly Pad.

sary had better educate themselves and their fellow-practitioners in regard to the general principles that Dr. Dudley has set forth, and determine the limited and proper use of the pessary.

In regard to what can be done with it, I will say that there is a time

in a woman's productive life, say the post-puerperal state, in which involution can be made to progress, or can be reestablished by correcting the position of the retroverted uterus. At this time it is possible for us to cure the retroversion, because if we will replace the uterus soon enough after labor, then involution, which is usually arrested when it is displaced, will be reestablished, and with the reestablishment of involution of the uterus, will follow involution of its supporting ligaments, chiefly the round ligaments, which are relaxed and are a part of its muscular apparatus. Holding the uterus in place with a pessary, properly adjusted by a competent physician, will cure the case, pregnancy might be invited as furnishing an opportunity for a cure without operation. But such cures can be effected by the use of the pessary only, and in the hands of something more than a tyro in gynæcology. There are thousands of women whom we help to comparative bliss temporarily by introducing a pessary, who are not at the time able to undergo an operation for various reasons, and if that pessary is properly guarded, there is no harm from it, and as Dr. Dudley says, it will not be felt. If it is felt, it is contra-indicated. Something is wrong.

Dr. Martin, in speaking of electricity, claimed results which I do not wish to deny, but we must bear in mind that if he achieves successful results in 33 per cent. of the cases, it is by the use of two things, the pessary and electricity, and of the two I think the pessary itself is the more important factor. The reasons why the pessary has done harm have been from a general misunderstanding in regard to its purpose on the part of medical men; that the pessary is for the retroverted or retroflexed uterus, and I deny most emphatically that there is any pessary suitable for the retroverted or retroflexed uterus. There never was invented a pessary for such an anomaly. The pessary is a device that we use to retain the normally anteverted uterus in position when it is liable to topple over backward; and until the uterus is normally anteverted, is entirely free from all fixation, a pessary is mechanical poison to the parts, and the evils that have resulted have come from a misconception in thinking that the pessary is a sort of jack-screw or lever which will raise the displaced uterus out of its vicious bed. First, secure normal anteversion; do away with all fixations by the assistance of massage, as Dr. Rumpf recommends. Be assured that there are no inflammatory complications involving the appendages, and a pessary, properly adjusted, will do considerable good; provided (1) that the patient, every 30 to 60 days, will go and see a physician who understands the use of pessaries and who is a gynæcologist sufficiently skilful to make bimanual

examinations. The physician should take out the pessary, and clean it and the vagina thoroughly with alkaline or antiseptic solutions or both. He should wean the fundus of the uterus over into anteversion by bimanual massage, in case it inclines to retrovert. In case a pessary and the impurities which it tends to harbor have caused an abrasion, change its curves sufficiently or exchange it for one of a different shape, so as to change the bearing-points. The points of bearing will be changed by introducing a pessary of the same size but of slightly different shape; so that we can manage the disorder in those women who dread an operation or are too poor.

Another positive requirement for the guardianship of the pessary are ample daily cleansing vaginal douches of hot water with antiseptics or astringents as needed, and taken in the dorsal recumbent position.

Massage is a worthy and efficient means for overcoming many of the results of infection (inflammation) such as adhesions, indurations, and some exudates after infection has died out. We need it sometimes in preparing cases for a pessary or for surgery. But, alas, I must say it is only a preparatory measure. It alone does not definitely cure in most cases. I cannot, from a rather considerable experience, confirm the declaration of the essayist on that subject, that it will definitely cure 50 per cent. of the cases. It will not do anything of the kind. And I make only very limited or exceptional use of it now, since I have introduced and established the practice of severing all adhesions of the uterus and appendages with a finger introduced through the dilated internal inguinal rings, in the improved and extended Alexander operation which fits a majority of these cases to perfection.

We do not achieve the results that Thure Brandt does apparently with massage because he was very expert at it and obtained some cures with it even in descensus uteri (prolapse), in a very laborious way, while we obtain better cures, much more certainly and easily by surgical means.

In regard to electricity, I wish to commend everything that Dr. Martin has said, with the exception of some points which I would like to have him explain. I do not see the advantage of the bipolar electrode, because, if anything, it would induce contraction of the vagina; whereas in nearly all cases of retroversion we need to elongate or stretch the vagina to get the cervix back into the hollow of the sacrum, as Dr. Dudley declared. Therefore, we do very little good with the bipolar electrode in the vagina; but the unipolar electrode introduced into the vault of the vagina and the other pole placed upon the abdomen is efficient, and if slow interruptions be adhered to it, it is certainly very

potent, in the absence of inflammatory and cystic conditions, not only in contracting and strengthening the uterine ligaments, but also in improving distended blood-vessels, as well as contracting partial venous stasis that is imminent in every gynæcological pelvis.

Dr. HENRY P. NEWMAN: It is generally believed that pessaries have been discarded by the gynæcologist; that they have been superseded by our operative work, and that we have no further use for them. The pessary, properly used, certainly has a place in gynæcology, but the one great trouble is, the patient is made to fit the pessary, not the pessary the patient. The methods brought out here to-night do not satisfy me in my application of such an appliance. First of all, we cannot fit the usual hard-rubber pessary to a patient in five, ten or even thirty minutes. By softening such an instrument with hot water or the flame of a spirit lamp, you may accomplish its introduction and partial adaptation to a given case; but it should be carefully moulded to suit the parts, just as the dentist makes an impression of the mouth and of the alveolar processes for a set of teeth. This can be done only in one way, namely, by first using a soft pessary—one with a copper wire covered with soft rubber—that can be moulded with the hand and made to fit the varied vaginal curves. This should be worn perhaps for a week or ten days, then readjusted as the parts readjust themselves, and in the course of two or three adjustments of the pessary, you may at the end of four or six weeks be enabled to apply a hard rubber instrument, moulded after the one already formed. Out of the large number of pessaries there are only two or three of any practical utility. Of the three or four sizes of the Albert Smith or the Hodge pessary it is possible that you may adapt a hard rubber pessary to an individual case at the first sitting. But this is the exception rather than the rule. It is, therefore, its indiscriminate and faulty use that leads one to object to the more extended application of the pessary.

With reference to Dr. Martin's paper, I should hesitate very much to use the stem- or intra-uterine electrode in a case of an undeveloped, highly sensitive, virgin uterus; one that has not been penetrated by an instrument or any foreign body. The difference between a uterus that has borne children and a virgin uterus is great, and the introduction of any instrument or a sound should be undertaken with a great deal of caution. Remember, the infantile or puerile uterus is a long-necked affair, poorly developed, usually more or less flexed, very delicate in its texture, and I do not see how a stiff instrument like the one here presented can be introduced into this class of uteri without previous dilatation of the cervix. If you are able to penetrate a uterus with such an instru-

ment at all, you are very apt to produce abrasion or trauma. The uterus is already diseased; it is not a uterus that functionates properly, but an organ in which inflammatory changes are already taking place. If you have to deal with an infected uterus with a long, narrow cervix, the inflammation extends to the tubes and ovaries and peritonæal cavity in perhaps nine cases out of ten. There is no drainage for the secretions, and the tendency is for infection to travel into the tubes; so that I object to the intra-uterine electrode in this class of cases, except under proper preparation of the patient. Proper preparation of the patient would be to dilate the uterus, shortening the cervix, and rendering the canal patulous, thus providing for the subsequent escape of discharges as from an inflamed or infected endometrium.

While I do not wish to reflect upon electrotherapeutics in general, and the essayist's superior skill in its application to pelvic pathology, it is well understood by gynecologists that outside of its attractive features to patients, it is but little used, and has been largely discarded as a local therapeutic measure in gynecic disease.

Dr. CHARLES S. BACON: I would like to speak on the obstetric side of this question, which is important both from a prophylactic and therapeutic standpoint. It deserves special attention because displacements illustrate the importance of obstetrics and the contest between obstetrics and gynecology. A consideration of the causation of uterine displacements shows that good obstetric management would make the services of the gynecologist superfluous. It is well known that three-fourths of all displacements of the uterus that cause any symptoms of any importance are due to the improper management of labor or improper care of the child-bed. The congenital cases are generally not important. As to the symptoms, nearly all arise during the puerperium, and that being the case, it becomes worth while to consider how displacements may be prevented or properly managed when found during the puerperium.

If a displacement is found during child-bed, and it is found by examination, then the only way is to treat it. I wish to emphasize the importance of making an examination of every woman before she leaves the care of the physician. But one examination is not sufficient. Undoubtedly, it is the experience of all of you that when you have examined a woman on the eighth, tenth, or twelfth day after confinement, before she gets out of bed, you find the uterus in normal anteversion, but after she gets up, and is around for two weeks or a month, she has symptoms of displacement—bearing-down pain, backache, and discharge. On making an examination you find, to your astonish-

ment, that the uterus is in a condition of retroversion. This common experience shows that one examination is not sufficient. Why this late displacement occurs has been always something of a puzzle, but the recent explanation given by Sielski, in the important works that have appeared from him, seem to throw a little light on the subject. The uterus after labor, after sufficient involution, drops down into its normal position, and lies upon the bladder, but it is still large enough, so that it reaches the anterior abdominal wall. It is held against the bladder, and in this position of anteversion, by the enormous force of the atmospheric pressure. The uterus lies upon the bladder just as firmly as the visceral pleura, for example, lies against the parieties of the chest. Every movement of the chest walls must pull with it the pleura attached to the lung; so every movement of the bladder must pull with it the uterus, which lies firmly adherent, and with a pressure of some fifteen pounds to the square inch. When the uterus lies in contact with the abdominal wall the force necessary to dislodge it is great, but after the process of involution has gone to a certain extent, the uterus gets smaller, and finally pulls away from the abdominal wall, allowing a coil of intestine to lie between the abdominal wall and the fundus of the uterus. Then, if there is any reason why, from injury to the pelvic floor, or from pulling down of the uterus, the uterus tends to drop down, it slides off from the bladder, when the latter is over-filled, and the uterus is brought in contact with the posterior wall of the pelvis, becoming adherent to the walls of Douglas's sac. This seems a reasonable explanation of late displacement of the uterus. Whatever may be the cause, it is a common condition. So the lesson to draw is that an examination should be made, not only before the patient gets up after confinement, but also after she has been around for a few days, before she is discharged by the obstetrician. If that is done, and the case is properly treated at the time by the application of a pessary, then there will be few cases that get to the gynecologist for subsequent operation.

There is one other point I would call attention to that the obstetrician has to consider, and that is the prevention of the essential cause of the displacement. Schultze and others who have particularly studied the ætiology of the uterine displacements have called attention to the fact that the main ætiologic cause is the pulling down of the cervix lower into the pelvis, of fastening the cervix by means of cicatricial tissue to the anterior ligament or to the cicatricial bands, which extend from the cervix to the spinæ ischii. That is generally admitted as the chief element in the production of uterine displacements. What is the con-

nection between these cicatricial bands and labor? They arise from the injuries that become infected. We cannot prevent a tear of the cervix in every case; we can prevent it in many cases. Sometimes we tear the cervix ourselves by manual dilatation of the cervix, a practice which seems not all uncommon in certain sections of this country, and, unfortunately, introduced into some of our text-books. Tears occur, however, from unpreventable causes, if we do not make them ourselves. These tears almost always become infected because labor is not conducted in a strictly aseptic manner. It is impossible to prevent all child-bed fever, but we can at least prevent a great deal by managing labor in a strictly aseptic manner, and so do away with the main factor in the production of displacement. For these reasons, the obstetrician is very greatly interested in the question under discussion. If a displacement is found after labor, is there any question as to what is to be done? I think not. I think the use of a pessary is indicated, and those who condemn its use altogether are certainly not in the right.

The importance of fitting the pessary to the individual case has been emphasized by Drs. Dudley and Watkins. I wish to call attention to the strange neglect of the celluloid pessary, the only kind that can be easily molded. It is, however, so little used in this city that it is often impossible to obtain an assortment at the instrument-stores.

With reference to massage, it is an interesting fact that at the German Gynecological Congress, held about a year ago, where the subject of displacements of the uterus was discussed for a day, and by very many prominent men, very little was said about massage. In fact, it was hardly mentioned as one of the measures of treating uterine displacements, even when Schultze himself was one of the men who took part in the discussion.

Dr. DANIEL T. NELSON: Some one has said, very truthfully, the diagnosis is half the treatment. It seems to me, in this discussion, if the causes are ascertained, and then the diagnosis made, with the instruction that these papers afford, there is little for us to be in doubt about. I can but commend these papers almost *in toto*, and I simply rise to make a few additions to them, and to emphasize certain parts, which seem to me were not sufficiently emphasized.

Dr. Dudley spoke of constipation and its influence in producing displacement of the uterus. In constipation the rectum becomes abnormally the reservoir for the fæces, instead of the colon, above the sigmoid flexure, and after having been dilated for a long time, the opening through the pelvic roof becomes so large, the fundus of the uterus readily falls into it when the rectum is temporarily emptied by

straining or artificial means, the cervix having been pushed forward abnormally by the filled and dilated rectum. Dr. Bacon has called our attention, very wisely, to the causes, dating back to confinement, normal or abnormal, before term or at full term, and, remembering the condition of the parturient canal at that time, and the readiness with which displacements occur by manipulations on the part of the obstetrician or otherwise, you can readily see that displacements, on account of the carelessness of the patient afterwards, are very likely to occur. You all remember how readily the cervix uteri may, immediately after delivery, be drawn out for almost any examination that you may wish to make, because of the roof of the pelvis is so dilated by the passage of the child through such a narrow opening, that it is an easy matter to bring the uterus out for the purpose of examination.

With reference to the use of pessaries, if a pessary is introduced, do not forget what has been said—make it fit. If you have ever worn a shoe that was a misfit, you can appreciate what a woman suffers with a misfitting pessary. Teach the woman how to remove a pessary herself, if it annoys. It is very important that you should do so, for while you may lose a fee, you gain the friendship of a friend. If you introduce a tampon, do not forget to tie a string to it, and teach the woman how to remove it.

With reference to the hard-rubber pessary, we must remember very hot water for the douche will quickly soften it, so that it will take its original shape, which is that of a circle.

Dr. HENRY BANGA: Dr. Newman and Dr. Goldsphon have congratulated our colleagues present upon the great gathering to hear the discussion of the treatment of displacements of the uterus. I belong to the small minority that feels rather sorry that the profession shows so much interest in this topic, because I think the importance of displacements of the uterus is greatly exaggerated. The symptomatology of displacements of the uterus was written at a time when bimanual examination of the pelvis was not practised as it is to-day. I know that a great many cases, as Dr. Dudley has intimated, are now recognized as forms of pelvic cellulitis, existing anteriorly, posteriorly, or at the base of the broad ligament, or as small cystic tumors, or as pyosalpinx, that were formerly, by examination with one finger only in the vagina, diagnosed as retroflexed uterus. However, I will not enter upon the general question of the significance or the meaning of displacements in gynecology, but will confine myself to the real subject which we are discussing, namely, mechanical treatment of displacements of the uterus. My experience with the pessary has convinced me of the fallacy

of attributing so much to the displacement, especially the retroversion. If we want to replace a retroflexed uterus, assuming that it be a movable uterus, we do it either by inserting a sound in the uterus or we do it bimanually. Now, it seems to me only logical that any device which is intended to keep the uterus in that reduced position, must surely touch or take hold of the uterus at exactly the same place where the reducing finger or the sound touches the uterus. There is no doubt that if you have a flexible retroflexion, and you insert an intra-uterine pessary, you will be able to straighten the uterus; then, if you put a tampon in front of the blade, you will be able to hold the uterus in that position. But we all agree that the intra-uterine pessary should not be used, for reasons mentioned by other speakers. Dr. Dudley said that when the uterus was in normal position, the cervix should be about an inch in front of the hollow of the sacrum; that the body of the uterus would follow immediately the moving cervix backward; that it would not be necessary to attend to the fundus any more, as it would assume its position by itself. He also said that in most cases the Hodge pessary, no doubt, suited best. A great majority of the practitioners use the Hodge pessary. The Hodge pessary never touches the cervix of the uterus in front, where the reducing finger touches the cervix and pushes it back; therefore, the Hodge pessary cannot retain the reduced uterus in the anteverted position.

Dr. ALBERT GOLDSFON: In speaking of the pessary, I wish to be understood as adhering strictly to the principles enunciated by Dr. Watkins, that the only thing we can use a pessary for is to maintain a uterus in anteversion, when it is prone to become retroverted or flexed. And the Hodge or Smith, or similar, pessary, selected and shaped in each instance to fit the patient—and not the patient to fit the pessary—is the only thing. All anteflexion, anteversion, and intra-uterine pessaries should be out of the world.

Dr. DUDLEY (closing the discussion on his part): I have but a word or two to say. There is a field for massage in suitable cases of displacement of the uterus. A large proportion of cases are suitable for pelvic massage. This was not a part of my subject, and consequently I did not touch upon it.

The subject of the mechanical treatment of displacements of the uterus has been treated from various standpoints to-night, and in lights of various colors. This is often the only way to reach the truth. Let us have all the colors of the solar spectrum, and then we shall have the glorious white lime of truth.

Dr. MARTIN (closing the discussion): My subject was limited to

electricity in the mechanical treatment of malposition of the uterus, and, therefore, I had to discuss it from the standpoint assigned me. I have very decided opinions in regard to the use of pessaries, believing that they should be used under some circumstances, and in the very beginning of my remarks I made the statement that electricity was only one means of a number to effect the cure of displacement. I also limited my remarks to two simple uses of electricity, and, while electricity is no longer fashionable, and is not used to the same extent that it was years ago, its use in certain conditions is, nevertheless, still scientific. Some of our physicians, moving along with the fads, would ask us to discard it; they would ask us to ignore the fact that galvanism contracted the frog's leg by the little pile of zinc and copper used by Galvano. But it did so, and the world will continue to move spite of all obstructions. It does something that you cannot demonstrate by massage. The treatment of gynæcological cases by electricity in certain limited directions is scientific. The points I have brought out can be abundantly proved every day in the physiological laboratory. Electricity will contract muscles, striped and unstriped. There is no denying that. It will do it more readily than anything else we know; it will reach the center of the organ and contract muscles there, something that nothing else will do. It will also change nutrition, as we can demonstrate by passing electricity through a patient for two days, testing the secretions and excretions, feeding the patient a certain diet, etc., and comparing these two days with two days without electricity, everything else being equal. I have brought before you simple truths that can be demonstrated. I apply this treatment in two places in displacements of the uterus; one place, where there are no adhesions, no tumors, no flexions, and no inflammation of the peritonæum, where the uterus can be replaced, and after it is replaced it is held there by pessaries, not by electricity. If replaced by pessaries, or by manipulations preceding it, and put in position, then the muscles that are at fault, that let the uterus get out of its place, are toned by electricity. This can be demonstrated.

In regard to my colleague Dr. Newman's remark as to the use of the stem-pessary, I am surprised that he would question for a minute my ability to use any kind of instrument and not do it right. I do not use stem-pessaries. This instrument, I have shown, intra-uterine bipolar electrode the size of a lead-pencil, can be introduced into a flabby uterus if there is no flexion; the end of the instrument is round; it will not penetrate the mucous membrane, and when it reaches this point [illus-

trating], the point of flexion in a flexed uterus, by guiding the sound with my hands, I slip it beyond the flexion into the uterus.

I wish to add a solemn protest against the use of pelvic massage as a means of treatment in gynæcology for any condition, or under any circumstances, unless the patient be anæsthetized previously to the surgical degree. I base my objections on the fact that I consider the procedure as a harmful practice from a moral standpoint. I base my objections not on personal experience with this measure as a routine treatment, but from my knowledge of the conditions we have to treat and from my perusal of the articles on massage by its most able advocates. I sincerely trust that no one member of the Chicago Gynæcological Society will ever read a paper on this subject again advocating the measure, and that some more rational means will hereafter be recommended to accomplish the results claimed for massage.

Official Transactions.

C. S. BACON, *Editor of Society.*

TRANSACTIONS OF THE NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, December 13, 1898.

The *President*, WILLIAM R. PRYOR, M.D., in the Chair.

Three Cases of Rupture of the Abdominal Wound after Cæliotomy.

Dr. BRETTAUER: *Case I.*—Mrs. A. B., 38 years old, was admitted to Mt. Sinai Hospital on July 2, 1894. For bilateral salpingitis cœliotomy was performed on July 5th, under ether anæsthesia. Owing to the presence of tense adhesions the operation was somewhat prolonged, and the amount of ether used large. The wound was sutured in two layers. The peritonæum and fascia together, and the skin with interrupted silkworm sutures. During the night following the operation, the patient had an acute attack of pulmonary œdema, which, however, was successfully combatted by the efforts of the house-surgeon.

• Convalescence during the first two or three days was disturbed by a very troublesome cough due to the severe bronchitis, for which narcotics had to be given constantly. Severe vomiting was also noted on July 7th. Temperature varied from 99.4 to 100.6; pulse from 96 to 130.

July 11th. The patient, who had been considered on a fair way to recovery the day before, passed a restless night, coughed a great deal, vomited twice and complained of severe pain over the whole abdomen. Upon opening the dressing, the lower half of the incision was found gaping and a coil of intestines presenting. The patient was at once put under chloroform, the skin around the wound cleaned and the intestines replaced and held in the abdominal cavity by an apron of iodoform gauze. On inspecting the buried sutures the knots of two silkworm sutures were found to have opened, and a third one loosened, though they had been tied firmly and were not cut closely. The larger part of the incision was now closed with three layers of silk sutures and the lower angle of the wound drained with a strip of gauze. This was done at 9 A.M. The patient never rallied from this second interference but failed rapidly and in spite of vigorous stimulation died at one o'clock the next morning.

Case II.—Miss S., 42 years old, was operated upon for ovarian

tumor on April 7, 1898. Schleich's Mixture, No. 3, was used as the anæsthetic.

After the removal of a large papilloma of the left ovary it was found that the right ovary was also the seat of a growth, which though smaller had grown more rapidly, as the papillomatous excrescences had already grown through the cyst wall and had invaded the peritonæal surface of Douglas' cavity. This latter circumstance caused considerable oozing which could only be controlled by packing the whole pelvis with gauze, which was partly led out through the vagina after the removal of the uterus, whose surface was studded with small nodules (which proved to be fibroids) and partly through the lower angle of the abdominal incision. The rest of the wound was closed with but one row of silkworm sutures, on account of the alarming condition of the patient at this stage, which necessitated haste.

The patient responded promptly to stimulation and an infusion of three pints of normal salt solution. Incessant vomiting, slight delirium with rapid pulse and temperature below 101, as well as the presence of iodine in the urine, made the removal of the large packings of iodoform gauze imperative. This was, however, only done gradually, so that the last piece was only removed after seventy-two hours and plain sterilized gauze substituted.

On April 11th, two sutures were removed on account of tension. The condition then was not very favorable. Temperature, 101; pulse, 120; vomiting after every trial of feeding by mouth; slight disturbance in the mental condition of the patient was noticed by her relatives.

April 12th. Wound dressed, two more stitches had cut through a coil of intestines and omentum lying within the gaping edges of the wound. The gut seemed normal, and was, therefore, at once pushed back into the abdominal cavity and with the exception of the lower angle the wound resutured with three layers of silk sutures under chloroform. A gauze drain was put into the peritonæal cavity. The patient's condition after the second suturing was quite favorable; vomiting stopped after twelve hours; bowels moved freely, and a large amount of nourishment could be given. On the morning of April 15th, however, the patient was drowsy, slight paresis of the right facial nerve was noticeable. Temperature 102, pulse 120. From this time on the condition grew rapidly worse and the patient died on April 17th of septic peritonitis.

Case III.—Mrs. C. C., 42 years old, was seen first on August 27, 1898, when a large abdominal tumor, cystic and most likely ovarian, could be felt. Within the next four weeks the abdomen had greatly

increased in size, breathing was getting troublesome, and the patient's stomach refused to retain the large quantities of beer, which had always been poured into it, and so finally drove her to submit to operation, which was performed on October 18th. Anæsthesia was begun with nitrous oxide then continued with ether until the bronchial secretion became too abundant, then finished with chloroform; it lasted two hours and fifteen minutes. The tumor was found to be a cyst of the right ovary which had developed between the two layers of the broad ligament. It was impossible, after emptying the fluid, to shell out the cyst wall alone on account of its most intimate connection with the small uterus and its relation with the right ureter. By tying off the left broad ligament and cutting through the cervix, the uterus with the cyst was finally removed, but not without great difficulties in avoiding harm to the right ureter. The rent in the right ligament was closed completely with a running catgut suture, a strip of gauze placed on the cervical stump, with the end leading into the vagina. Closure of the entire peritonæal opening in the pelvis by sutures was found unnecessary, as the abundant anterior flap of peritonæum covered the whole vesico-rectal space.

The abdominal wound was closed with three rows of sutures; the peritonæum with a running catgut suture, the fascia with thirteen buried silk, and the skin loosely with interrupted catgut sutures. Dressings applied in the usual way.

On the second day after operation, patient was slightly delirious, had hallucinations, and became very restless and noisy. Opiates, bromides, and chloral were wasted; finally, in spite of vomiting, I gave a small quantity of beer and so cut short a possible acute attack of delirium tremens, for which I was watching closely, knowing well the patient's habits. A slight bronchitis and a dilated stomach troubled the patient greatly for the next few days, cough being constant, and vomiting whenever a certain amount of fluid had been taken. On October 24th, however, six days after the operation, the condition was entirely satisfactory. The wound was dressed, most of the catgut sutures had become loose and primary union was noticed. It is usual with fat women to support the abdomen for some time after operation with straps of adhesive plaster, as was also done in this case.

The nurse who had special charge of the case was dismissed and the patient left alone, sometimes for half an hour or so. Through some unfortunate circumstance, the beer which the patient was to have at 8.30 P.M. was not at hand and only given at 9 P.M. By this time the patient was already in such an excited condition that large doses of narcotics hardly controlled her during the night; the temperature rose to

104.5, pulse to 120; the nurse reports delirium and great restlessness, and the *straps loosened*.

When the senior surgeon saw the patient at 6 A.M., on October 25th, he found the wound in its *entirety* gaping and about two feet of intestines and omentum prolapsed. This he replaced into the abdominal cavity with some difficulty, kept it there with two large compresses of iodoform gauze and then strapped the wound tightly with adhesive plaster. Within the next twelve hours the patient's condition improved so materially that I decided not to do anything at this moment; October 27th, fifty hours after this accident had been discovered and dealt with, the temperature was normal, pulse good, bowels moving spontaneously; in short, not untoward symptom present. Still it appeared necessary to my mind to remove at least one of the gauze pads from the cavity, and therefore I opened the dressing. The gaping of the incision, which was four inches long, was so wide, a closure by granulation appeared so unlikely, that I decided now to at least hasten the process of healing somewhat. Under slight chloroform anæsthesia, I put through the entire thickness of the abdominal wall three sutures of heavy silver wire, and with the help of plates and shot approximated the two edges so that they almost touched; the remaining opening was carefully packed with gauze and straps placed over it. An attempt to place separate sutures through the fascia failed, as every suture tore through the moment the slightest force was used in tying. It was clear that the fascia in the whole length of the incision had torn immediately behind the line of stitch-holes, while the buried thirteen stitches held the two original edges of the fascia very tightly together.

Not the slightest reaction followed this procedure. The upper silver-wire suture was removed on November 2d, the edges of the wound in the upper angle are already together. The abdomen, however, will be kept strapped carefully until firm union has taken place.*

I submit these cases to you for discussion because each presents different features to which the unfortunate accident might be ascribed. Above all, it is the method of suturing which might be called in question. This, however, could apply only to the first two cases, as the method employed in Case Three has uniformly proved satisfactory in my hands in a large number of cases. Case I., was operated at a time when it was claimed that silkworm gut was preferable to silk on account of its firmness and easy sterilization. Although the method of suturing in this case represented only a trial of it on my part, I believe to-

* December 12, 1898. Patient has entirely recovered; wound healed; no hernia appeared as yet.

day that under the circumstances this untoward accident would have occurred had I employed the method I usually follow.

In Case II. the condition of the patient on the table as mentioned before made haste imperative, hence the employment of the simplest and quickest method of suturing was resorted to. It is plain that the persistent vomiting induced by iodoform-intoxication, necessitating the early removal of gauze, may be held to some extent responsible for the resulting complication.

In the third case I am convinced that some violent effort, voluntary or involuntary on the part of the patient, was an important factor in the tearing of the fascia. Deprived of her usual amount of alcoholic stimulants (incidently I may mention that this is nine pints of beer a day) the patient was restless from the time of operation and very difficult to manage. I even suspect that during some short necessary absence of the nurse from the room she may have left her bed.

In the light of my unfortunate experience in the first two cases in which I resorted to immediate resuturing, I decided in the last case to adopt an expectant treatment. In spite of the certainty of a subsequent ventral hernia, I consider to-day, judging from the result in this case, such a method of procedure the safest.

DISCUSSION.

Dr. R. L. DICKINSON: When I tell people that I did my first laparotomy twenty-eight years ago, they think I must be a great deal older than I look. The fact is, I did it on myself accidentally. While in swimming I struck a sharp object on jumping into the water and tore a transverse gash eight inches long in my abdomen through all the muscular layers. I remember holding the intestines in with my hand until the only dressing available was applied; this proved to be a not over-clean, sandy towel. I was placed in a boat and rowed over a mile. The wound was closed with seven silver-wire sutures, and the country doctor, who did the work, was so crippled with rheumatism that he was obliged to direct the farmer to insert them, so they were not put in as well as they might have been. They were removed about the twelfth day. I remember that it hurt a good deal and that during the operation I gave a gasp which tore the entire wound open. No other sutures were introduced. The wound was strapped, and this was repeated every day—a barbarous procedure. The wound healed well and I have now a sound abdominal wall, save a retracted rectus, which

interferes with only one sport—sparring. All my vigorous muscular activity has never suggested a hernia.

Dr. E. H. GRANDIN: I do not think it is fair to blame the method employed in closing the wound in these cases, except perhaps in the first case. There are many methods of closing the abdomen and I have probably used them all. Fortunately there are few cases, such as those described by Dr. Brettauer, and nothing of this kind has ever happened in my practice. I began by using through-and-through silkworm-gut sutures; then I sewed up the peritonæum with catgut and the fascia and muscle with silkworm-gut sutures. Now I use chromicised gut for the peritonæum fascia, and superficial silkworm gut for the skin. I have had my share of large incisions and of troublesome vomiting, and yet I have never had a case in which the abdominal wound reopened. I do not think we will ever agree as to the best method of closing the abdominal wall—unless we come to the conclusion that we should replace the tissues as Nature had them before we incised them.

Inasmuch as one of the patients may have developed iodoform-poisoning, I would like to say that it is now three and a half years since I have used iodoform gauze, and I stopped using it because I saw three cases in which toxæmia resulted from it. Sterile gauze is all that is necessary and does not subject the patient to the risk of iodoform-poisoning. The older I grow and the more work I do the more simple become my methods and the fewer chemicals do I use. Some of us are foolish enough to use the many so-called antiseptic preparations which are sent to us by the manufacturing chemists. I use no chemicals in my operative work and yet I would not be ashamed to place my results in the scale with those of surgeons who are still using them. The secret of success is simplicity in method together with rapid operative work, and toward securing such success few instruments, few assistants, no chemicals, enter largely as factors.

Dr. RALPH WALDO: This question of closing the abdominal wound is always interesting. It seems to me that there is a cardinal principle in surgery involved here which possibly some of us overlook, and this is that where a great deal of strain is to be put on a wound, the sutures should be placed well back from the edge of the wound. The following method is one which I devised and published four years ago and have since employed with satisfaction.

A deep silkworm-gut suture is introduced from half an inch to an inch from the edge of the wound (depending upon the thickness of the abdominal wall) and passed diagonally through all the tissues including the edge of the peritonæum: it is then passed up in a similar manner

through the tissues of the opposite side. These deep sutures are placed half an inch apart. Midway between them are inserted silkworm-gut sutures which enter the skin not over a quarter of an inch from the edge of the wound, include fat and fascia, and emerge on the opposite side at a corresponding point. The advantages of this method are: (a) It accurately approximates homogeneous structures, especially the fascia; (b) there are no buried sutures which may give rise to immediate or remote trouble; (c) if suppuration takes place, the wound can be treated and the burrowing of pus prevented; and (d) it thoroughly supports the wound no matter how much the patient vomits.

Dr. A. P. DUDLEY: In regard to iodoform gauze, I would like to ask Dr. Brettauer whether the gauze he used in the case in which iodoform-poisoning occurred was not prepared with glycerine. I have seen several cases in which toxæmia was caused by gauze prepared with glycerine and I no longer use it. A certain amount of the iodoform is dissolved in the glycerine and is thus taken up by the blood and poisoning follows. I now use a five-per-cent. dry iodoform gauze.

Dr. CLEMENT CLEVELAND: I would like to say a word in regard to Dr. Waldo's method of closing the abdominal wound. I have of course used nearly every method of closing the abdominal incision. For some time I have been employing the method referred to and have been so pleased with it that I shall continue to use it. It certainly brings the fascia together and makes the abdominal wall firm and strong. The fact that the edges of the fascia are approximated can readily be demonstrated as the sutures are tied. Recently it was necessary to reopen an abdominal wound which I had closed by this method, and Dr. Broun, who did the second operation, tells me that he had great difficulty in separating the fascia, so firmly had it united. I think this is strong evidence in favor of the method.

Dr. H. N. VINEBERG: As an illustration of the varying opinions held on this subject by different operators, I found when I was in Philadelphia, two years ago, that the surgeons there prided themselves upon the manner in which they *over-lap* the fascia in closing the abdominal wall. Here we claim that the main object is to bring into careful apposition the various tissues of the abdominal wall.

It seems to me that the method of closing the wound is not so important, so far as the result is concerned, as is primary union. I would like to ask Dr. Waldo if union by first intention took place in all the cases in which he employed his method of closing the abdominal wall.

My custom is to close the peritonæum separately with catgut, the fascia muscle with interrupted catgut and the skin with silkworm-gut.

In one instance in which septic peritonitis developed, the sutures of the fascia gave way; the peritonæum, however, had united so firmly that it did not part in spite of the fact that the abdomen was greatly distended. In cases in which the wound is purposely left open, as in some operations upon the appendix, I pack the wound with gauze and never have had any trouble even if there has been excessive vomiting.

Dr. WALDO: In reply to Dr. Vineberg's question I would say that primary union followed in nearly all cases. For the first two years I got primary union in every case, and then I had two cases in which stitch-abscesses occurred. I follow up my cases closely for at least a year after operation. The only case in which hernia occurred was in a woman with flabby, lax abdomen, who had been operated upon for complete procidentia. In addition to the advantages mentioned already, this method of suturing takes the place of a running catgut suture in which there is always danger of cutting off the circulation to such an extent that the wound reopens. It also affords drainage between the stitches.

Dr. BRETTAUER: I did not wish to bring up for discussion the old subject as to which is the best way to close the abdominal wound. I am satisfied that in simple and clean cases, it does not make any difference which method is employed. If the peritonæum fascia and skin are not infected and are handled carefully they will heal and no hernia will follow. But in the difficult cases in which the operation lasts two hours or more, in which the incision is large and a great deal of manipulation necessary, and in which vomiting takes place even while the operation is going on—these are the cases in which we get complications during convalescence. In each of the cases reported there were conditions present which showed that a great force had been acting on the abdominal wall. In all but the first case (in which the knots may have been imperfectly tied) the sutures withheld this force; it was the fascia which gave way, although there seemed to be no reason why it should have done so. Necrosis of tissue will always follow if the operator has not yet learned to what degree his sutures should be tightened. We have had all these cases and have been taught a lesson by them. I must congratulate Dr. Waldo upon the results he has obtained with his method. I, too, have had very good results in clean cases, but do not attribute it to the suture alone; but in pus cases, stitch-hole abscess will occur as a result of infection no matter how careful one may be and no matter what method of suturing be employed. I reported these cases in order to learn from the members if they had had similar experiences. I am glad to know that they have not been so unfortunate as I.

In answer to Dr. Dudley's inquiry as to the iodoform gauze used, I would say that it was one-per-cent. dry iodoform gauze especially prepared for me without glycerine.

Preliminary Report on shortening the Utero-Ovarian Ligaments through the Vagina for Prolapse of the Ovary.

Dr. H. N. VINEBERG: It frequently happens that in backward displacements of the uterus one or both ovaries are prolapsed either between the uterus or at the side of it, so that the ovary can be felt lying directly on the vaginal wall. This complication not infrequently gives rise to more disturbance than the malposition of the uterus itself. It very often is the cause of dyspareunia and may be the source of much marital unhappiness. When the prolapse is due to a lax and elongated utero-ovarian ligament, as in a large percentage of cases it is, the various operations for the correction of the malposition of the uterus do not remedy the ovarian prolapse. Even when the uterus is attached to the abdominal wall (ventral fixation) the long and lax utero-ovarian ligament will permit the ovary to descend low in the pelvic cavity and the ovarian prolapse existing prior to the operation will seem to have undergone no appreciable change. I am firmly convinced from personal observation that the therapeutic results of the three principal operations for backward displacement of the uterus (vaginal suturing of the round ligaments, Alexander's operation, ventral suspension and fixation) are frequently rendered unsatisfactory through persistence of the ovarian prolapse. So firm has been this conviction with me that for some time past, whenever doing conservative work upon the tubes and ovaries whether by the abdominal or vaginal route, I have always endeavored to stitch the ovary to the amputated tube or to the posterior aspect of the broad ligament. In a few instances when operating through the abdominal route, I have stitched the elongate infundibula pelvic ligament to the iliac fossa as described by Saenger in the *Centralblatt für Gynecologie*, 1896.

In August of this year I hit upon a plan which in certain cases seemed to me to be more feasible than the method I had been practising. I was operating upon a young woman with a marked retroflexion of the uterus and prolapse of the left ovary. After the fundus of the uterus had been fully drawn out through the anterior vaginal incision I found that the left ovary still lay deep down in the lateral pelvic cavity. Passing the index and middle fingers of my left hand through the vaginal incision and below the ovary, I was enabled to bring it up

and readily deliver it through the wound. The ovary and tube were to the naked eye quite healthy, but the utero-ovarian ligament was very long. It occurred to me that by taking in a fold of the ligament I would be able to overcome the prolapse. The suture of continuous cat-gut was easily applied, the ligament was folded upon itself, and was now scarcely half its former length. After the ovary and tube were returned to the peritoneal cavity and the round ligaments sutured to the vaginal wall both uterus and ovary lay in position approximately normal. The patient made an uninterrupted recovery. On examination two months later the same favorable position of uterus and ovary was found. The subjective symptoms from which the patient had suffered prior to the operation had all disappeared. I heard of her through her physician a few days ago and he says she has remained perfectly well.

The next case upon which I carried out this procedure was the wife of a physician upon whom I operated November 15, 1898. The patient was newly married. She had suffered since her twelfth year, at which time she sustained a violent fall, with severe backache, pain in the left groin, and inability to walk even a few blocks without great discomfort. As a girl at school, after the accident, she could never run and play with her school companions. For some time before consulting me, she had received local treatment without any benefit.

I found a small, poorly developed uterus, retroflexed to the third degree. With some difficulty it could be anteverted and then the left utero-sacral ligament was found very tense and the anterior vaginal wall rigid and short. The left ovary was rather large and prolapsed behind the uterus so that it could be felt immediately beneath the vaginal wall. I did the usual operation for suturing the round ligaments to the anterior vaginal wall and shortened the utero-ovarian ligament as in the first case. The technique, however, was not so satisfactorily carried out as in the preceding case for the following reasons: (1) The ligament was rather thick and infiltrated so that it was not so easily folded upon itself and sutured. (2) The vagina was small—the woman had only been married a short time—poorly developed and unyielding, so that the field of operation was not very accessible. The patient made a good recovery, is entirely free from any pelvic discomfort, being able to walk any distance without pain or uneasiness in the left groin. The therapeutic result thus far, therefore, could not be more satisfactory. The uterus is in excellent forward position, but the position of the ovary, while very much improved, is not what I would desire. It lies

at the side of the uterus a short distance above the vaginal wall but does not lie as high in the pelvic cavity as the left ovary in the first case.

I am presenting this communication merely as a preliminary report of what I consider as rather a valuable procedure in a certain class of cases. It is my purpose to make a further study of its anatomical and clinical results and hope to be able at some future date to offer them to you in a more definite manner than I can at the present time.

NOTE.—It appears that Dr. A. P. Dudley has been employing a similar method through the abdominal route. I learned this first when presenting the above report to the New York Obstetrical Society. No mention of it is made in the recent articles written by Dr. Dudley on conservative surgery upon the uterine adnexa. In a personal communication to me the doctor states that he carried out the procedure for the first time on a private patient on May 28, 1897.

DISCUSSION.

Dr. DUDLEY: If Dr. Vineberg thinks this is original I wish to disabuse his mind, and at the same time say that I feel sure that he will meet with failure when he does the operation for the reason that it is impossible to get permanent union between two fibrous structures. I am becoming quite skeptical about the Wylie-Mann operation for this same reason. I have several times tried the operation of shortening the utero-ovarian ligaments and have found that the result is not permanent. Of late, in cases of prolapsed ovary, I have been sewing the ovary to the posterior surface of the broad ligament; this has been followed with the most satisfactory results. As to folding the ligament upon itself, I would rather remove a section of the ovary.

Dr. VINEBERG: I do not think Dr. Dudley has ever done the operation I propose. I do the operation through the vagina, and this is the only originality I claim, although I am certain that I have not seen a description of this procedure anywhere and I have read with care and attention all the published articles of Dr. Dudley's excellent work upon the uterine adnexa. In regard to his remark that permanent union will not result because this is impossible between two fibrous structures, I would say that his criticism falls to the ground, for in the operation proposed no attempt is made to unite two fibrous structures. The utero-ovarian ligament is covered with peritonæum; therefore, the surfaces brought together are serous surfaces. The same kind of union results here as follows ventral fixation of the uterus—a sero-serous

Dr. W. H. VINEBERG: I saw the patient from whom this specimen was removed two days before Dr. Boldt was called in. One interesting feature of the case, which has not been mentioned, is the fact that she had for several months been in the care of a physician who treated her with electricity, applying the galvanic current to the interior of the uterus. The woman had been having hæmorrhages up to two months ago when the bleeding ceased, and since that time the tumor has grown very rapidly. There was every reason to consider the patient pregnant. My opinion of the case was the same as Dr. Boldt's. It was out of the question to let the patient go on suffering. It was impossible to introduce the finger between the pubis and the tumor, which lay low in Douglas' pouch, and, therefore, the uterus could not be emptied. The radical operation was indicated, but I would like to ask Dr. Boldt why he departed from his usual custom of doing panhysterectomy and did a supravaginal amputation instead.

Dr. BOLDT: In reply to Dr. Krug I would say that my reasons for considering the patient pregnant were as follows: The woman had been suffering from menorrhagia; two months ago menstruation ceased abruptly and did not reappear. There was discoloration of the areolæ of the nipples, and upon bimanual examination the enlarged uterus could be felt. I do not care to cut open the uterus in order to demonstrate the fact that pregnancy exists, because I intend to send the specimen to a gentleman at Johns Hopkins University who is much interested in embryology. Of course, I cannot state positively that the uterus contains a foetus, but I think we can safely assume that it does.

Dr. ALEX. J. C. SKENE then read the paper of the evening, entitled

Myomectomy by a New Method.

(See page 235.)

DISCUSSION.

THE PRESIDENT: The method of separating adhesions advocated by the author is such a radical departure from our present method, that the paper should elicit a great deal of discussion.

Dr. CLEMENT CLEVELAND: I regret that I did not hear all of the paper. I am glad, however, to testify as to my use of this electric hæmostatic clamp. When the author published his first paper upon the subject some years ago, I felt much interested in the matter and made up my mind to provide myself with the instrument and try it. A year

and a half ago I succeeded in getting the apparatus and learned how to employ it properly, and I can say from my experience, which has been quite extensive, that the results have been most satisfactory. I have employed the clamp in vaginal hysterectomy in a large number of cases and have also used them on the broad ligament of the *cœliotomy*, and have never yet seen secondary hæmorrhage follow their use; moreover, I do not think that secondary hæmorrhage is possible when the clamp is properly used. Dr. Skene has distinctly stated that he does not use them to char the tissues but simply to bake or desiccate them with the instrument heated to only 198° or 200° F., and claims that they are not destroyed by the process but later become re-vitalized by blood and nerve supply. I have often been asked if the heat does not extend beyond the outer edge of the forceps and if there is not danger of thus injuring the uterus, when employing the instrument in vaginal work. I have never seen anything like this. Dr. Skene states that the heat does not extend more than a line beyond the forceps. He has devised a shield by means of which the adjacent tissues may be protected from injury. I have been in the habit of using a packing of gauze for this purpose, for it is only lately that I have been supplied with one of the shields which are really forceps covered with hard rubber, so prepared that it does not conduct heat.

I have not yet employed the electric forceps in cases of myomata, but I have used them when removing ovarian tumors and in vaginal hysterectomy. As to the clamp, I have found it most useful and should consider it a calamity were I deprived of it.

Dr. JOHN BYRNE: I have had practical experience with this instrument. I have now done seven vaginal hysterectomies by means of the cautery alone. In five of these cases I used the Pean pressure forceps, and have always regretted that I had to do so, for I consider that any such operation is unfinished when forceps are left in the vagina. We should not lose sight of the suffering and annoyance to which the patient is subjected by the presence of three, four, or even more instruments in the vagina for forty-eight hours, nor the pain which attends their removal, no matter how carefully this is done.

In my last two cases of vaginal hysterectomy, however, I was fortunate enough to be provided with hæmostatic forceps by the courtesy of Dr. Skene, and I employed them with the most satisfactory results. Up to the time of applying the forceps everything was done by the cautery-knife—the bladder was separated from the uterus and the cul-de-sac opened in this way—and then the hæmostatic forceps were applied upon the broad ligaments for three minutes. Before the forceps

were removed, the cautery-knife was passed along their edge and the uterine connection separated in this manner. These last two cases recovered without a single bad symptom. The temperature did not reach 100° in either patient, and both are now entirely well.

I do not think there is any ground for the fear that the heat from the instrument will burn adjacent parts. In doing a high amputation with the cautery-knife, I have frequently opened the cul-de-sac and touched a coil of intestine, but I have never seen any bad results follow. I am convinced that the amount of heat conveyed to the sound tissues by the hæmostatic forceps is not sufficient to do any harm. I protect the parts in the manner described by Dr. Cleveland, by packing gauze around the forceps.

The only criticism which would venture to offer in regard to the construction of the instrument is that the blades are too wide. They measure three-eighths of an inch. I consider that they would compress a sufficient portion of tissue to control hæmorrhage if they were made but one-fourth of an inch wide. The less tissue which is gathered into the grasp of the forceps the better; moreover, we all know that in vaginal hysterectomy there is not a great deal of room to spare and that narrow forceps take up less room than wider ones. Otherwise I have nothing but praise to give the instrument, for I think it is invaluable. It does away with ordinary compression forceps and ligatures while stumps are left in an absolutely aseptic condition. I have not yet had an opportunity to use them in abdominal work, but I am sure they will act as Dr. Skene has described, and that is, insure electro-aseptic hæmostasis.

Dr. HORACE TRACY HANKS: I regret that I did not arrive in time to hear the paper. I have, however, had the satisfaction of using this instrument both in vaginal and abdominal work and have been highly pleased with it; but as it is not an easy matter to have all the appliances at hand with which to do this work in private houses, it seems to me that it is more applicable to cases operated upon in hospitals where we have better facilities for special work of this kind. This is unfortunate, because this cautery clamp does the work so very satisfactorily that I would like to employ it more generally. One of the chief advantages of this method is the fact that the patients suffer very little after-pain as compared to that which results when forceps are left in the vagina or when ligatures are used.

THE PRESIDENT: There is no reason why other methods of treating adhesions should not be brought up and discussed in connection with

Dr. Skene's paper. There are principles involved here which I should think would lead some one to make comparisons.

Dr. SKENE, in closing: If I confine my remarks to the original text of the paper, there is nothing for me to add; but the question which has just been raised by the President, as to a comparison between the use of ligatures and the method described, is an interesting one and may be referred to briefly. The difference between ligation of the pedicle and the use of the electric hæmostatic forceps for the control of hæmorrhage is simply this: (1) The ligature leaves beyond the constricted portion of the pedicle a button of tissue which is very liable to adhere to the surrounding parts unless it is closed in by bringing the peritonæum over it, and this takes time if one is to be sure that it is properly done; (2) The portion of the stump which is constricted has to be disposed of, and (3) the ligature, unless the it of catgut, remains in the pelvis to do mischief. All these objects are obviated by the use of the hæmostatic forceps. I have found them more satisfactory than anything else. It is absolutely impossible for secondary hæmorrhage to occur when they are used, the stump will not form adhesions, and no ligature is left in the pelvic cavity to cause trouble. Moreover, I have proved by laboratory experiments that the stump becomes re-vitalized—the tissues are not destroyed but are reorganized and remain harmless living tissue. The greatest advantage in the use of the forceps is seen in operations upon canals lined with mucous membrane, such as the Fallopian tube and vermiform appendix. I know from sad experience that it is impossible to permanently close a canal lined with mucous membrane with a ligature, for when the ligature is absorbed the parts are set free and the canal reopens. Sometimes this takes a long time and sometimes it takes a short time, according to the amount of exudate which is thrown out around the stump, but eventually the tube will reopen. It will not reopen if it is closed by heat and pressure, because its walls are so thoroughly fused together and the secreting character of the mucous membrane so destroyed that it cannot re-open. When this method has been employed I feel sure that there will be no secondary troubles. It is not uncommon to find that after removal of the Fallopian tubes a patient makes a good recovery from the operation and yet has another attack of inflammation several months later. This is especially liable to occur if the uterus is left and both tubes removed, for in such cases there is danger of septic inflammation following. This is also seen in cases in which the appendix is removed—there is a recurrence of the inflammation and often the formation of a fæcal fistula. Nothing of this kind will take place if the hæmostatic forceps

are employed, because the instrument so completely closes the canal that it cannot possibly re-open. This is the chief advantage which I claim for it.

I am often asked if I have no further use for ligatures and sutures in abdominal work. Why, certainly I have and I presume I shall always employ them. For instance, I see no way in which the hæmostatic forceps can be used for the purpose of closing the wound or controlling hæmorrhage in Cæsarean section nor in the removal of interstitial fibromata. Then there is another operation—abdominal hysterectomy—in which I use sutures. I close the peritonæum over the broad ligament. But I believe the time will come when I shall apply a long pair of forceps, say, one which will take in the ovarian artery and that portion of the ligament above the uterine artery, and thus make the separation. In this way hæmorrhage will be controlled and a little strip of dry tissue will be left. So I believe that I may some day hope to use the instrument in abdominal hysterectomy and do away with the continuous suture.

A word may be said in reference to the question raised by Dr. Hanks. Of course, it is always better and more convenient to operate in a hospital where every facility is at hand, but this instrument is as easily carried as ligatures and I am sure they are much more easily kept sterile. I always know that these forceps are clean. The source of heat is perhaps a difficulty, but one can have a storage or Byrne battery which is capable of heating even Dr. Byrne's cautery-knife, which weighs only about forty pounds, is easily carried, and will last through any operation.

I had hoped that the adhesion of mesentery referred to in my paper would be discussed but as nothing was said on that subject I can say no more.

Dr. CLEVELAND: In regard to this question I would like to say that the method is within the reach of anybody. It is not necessary that the street current be employed to heat the forceps. A storage battery is all that is required, and Mr. Louis M. Pignolet, 78 Cortlandt street, the maker of the instrument, is always ready to go anywhere with the apparatus and lend his assistance for a very moderate fee.

Dr. H. N. VINEBERG: I would like to ask how the heat is regulated.

Dr. CLEVELAND: This is done by means of a transformer which regulates the degree of heat.

Dr. BYRNE: There should be no question whatever about regulating the degree of heat when a good battery is employed. If the power of the battery is unknown, any one can test the heat of the forceps by

watching their effect upon the tissues. I should say that my battery would answer the purpose admirably. In my office I am in the habit of using the street current.

Official Transactions.

JOSEPH BRETTAUER, *Secretary.*

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL
SOCIETY.

Stated Meeting, January 5, 1899.

The *President*, CHARLES P. NOBLE, M.D., in the Chair.

An Elective Cæsarean Section.

BY GEORGE M. BOYD, M.D.

(See page 293.)

DISCUSSION.

Dr. MORDECAI PRICE: When we shall do a Cæsarean section is probably one of the most important questions to-day coming before the obstetrician as well as the gynæcologic surgeon. I have been pleased to hear Dr. Boyd's report and its favorable result. I differ with him as to several points in the case.

In the first place, I do not believe in Cæsarean section under any circumstances, except where the child is abnormally large, where the woman has borne small children or borne moderately large children with the aid of forceps. Under such conditions I would do either a symphyseotomy or the Cæsarean section, and I believe, with Dr. Boyd, in many of those cases the peculiar form of the pelvis would induce me to do the Cæsarean section rather than the symphyseotomy, but I am more firmly convinced, whenever such cases are brought under my observation, that the Porro operation is the operation of all others for deformity, or, as Dr. Boyd says, for cancer or for myoma or for any allied condition.

Why should a woman be consulted as to the propriety of leaving her uterus? I admit that if I were called to the woman and she demanded Cæsarean section in place of the Porro operation, and would have no other, I should quietly withdraw from the case, if, in my judgment, the case was one for the Porro operation. My judgment I believe to be well founded, for in the Porro operation I have assisted and operated eight times, and the results have been simply perfect. There were less complications following Porro operation in the eight cases than I

ever saw in the most natural labor. The children all nursed after the second day just as nicely and as quietly as if there had been nothing wrong or nothing particularly interesting in the labor. The operation is a cleaner one; it leaves nothing in the abdomen, either from the labor or from the surgery. If the uterus is delivered and the abdomen packed with gauze, the uterus can be opened and the child delivered without a particle of fouling of the peritonæum. The woman has shown no symptoms from rise of temperature or septic complications in any of the cases that I have seen. I have seen cases so long delayed in delivery that the uterus was almost gangrenous, the child had been dead a number of days. I have seen them in the third, fourth, or fifth day of labor, complicated with fibroid in the birth-canal, where the woman was completely prostrated, and where everything indicated that a fatal issue would probably take place, and the results from a Porro operation have been simply perfect. The woman rallied from the operation and from her labor with more promptness than she would with a moderate delay of natural labor, and in the three cases under my care to-day, two of them, with living children, say they never had a well day from their earliest recollection after the period of change of life until after delivery, and both of them to-day are the picture of health. Both of them say they have never had a pain or ache in the pelvis since the operation, and the children of both are to-day alive, one born last July and the other three years ago. I cannot but believe that we owe a duty to the woman to remove all possible chance of future pregnancies. It does not change her relations with her husband; on the contrary, if anything, they are improved. Now, why should we risk that woman's life a second or a third time, as in the Gibson case, when the one operation will do? We are not in want of so many children as to risk the woman's life that she may have another. If the first child should be dead, then I grant you that the woman has a right to the possibility of maternity; but I do not believe that this question ought to influence us much in our judgment in the choice of an operation.

Now, as to one other point to which Dr. Boyd calls attention, the apparent asphyxiation of the child. Whether you call it asphyxiation or not, I do not know. I do know it takes a considerable time in either Cæsarean or Porro operation to get the child to breathe. Some of them refuse to breathe so long that you feel that the case is almost hopeless. Although the heart continues to beat, the child will not make any effort at respiration.

One other point in regard to the delivery of the child. I think it makes no difference, with reference to the safety of the mother, how

quickly you deliver the child, for the simple reason that the placenta is intact, and will give time for contraction of the uterus; but if you are slow in the delivery of the child, and the woman is in active labor, and you deliver it by the feet or breech, you may find that the uterus contracts around the neck of the child, and you may be compelled to enlarge the opening or use so much violence in its delivery that it is questionable whether it should be done. I feel that the quicker the delivery of the child, after the dilatation or after the incision, the better for the patient, and it makes no difference, I think, with the child. In the Porro operation, to be sure, there is nothing to deliver but the child. The placenta is left in place and the uterus cut away with it, so that the delivery of the placenta has nothing to do with the operation.

Dr. CHARLES P. NOBLE: This subject has been discussed a great many times in this room, and I confess I see no reason to change the opinion which I have always held about it, and that is, if the uterus is healthy, I see no reason why I should remove it. Those who advocate the Porro operation tell us in one breath that the Cæsarean operation is very safe, and in the next that we should not subject the woman to the risk of having it repeated. I believe that it is a safe operation, and, therefore, that we are not subjecting the woman to any great risk if repeated. My own opinion is that, unless the woman herself is strongly of the desire to be saved from the possibility of repeated pregnancies, that the surgeon is not called on to interfere with the possibility of repeated pregnancy. That, of course, is with the supposition that the uterus is not the seat of tumor or cancer, or is septic. Where a fibroid tumor calls for hysterectomy, or if the patient has a cancer, or is septic, I believe, of course, that hysterectomy is the operation of election; but with these things left out, and with the certainty that the woman is not infected, I agree with Dr. Boyd that the Cæsarean operation is the preferable one.

I think that those who have advocated the Porro operation have claimed that the results were very much better than from the Cæsarean but whilst statistics can be collected to prove almost everything, the late statistics in the Cæsarean operation, furnished by those with large experience and taken from the large German maternities, will show that both operations have a very low mortality, and if there is any difference, it is in favor of the Cæsarean.

The only city in the United States which has had what might be called a Cæsarean revival is Boston and, for some reason, there it has become very popular. Last year at the Gynæcological Section of the College Dr. Reynolds reported that he and the various men connected

with the Maternity Hospital in Boston, with which he is associated, had done, I think, eighteen Cæsarean sections, and all had recovered. In other words, he said that the Cæsarean operation had been a very popular and successful one in Boston, and his feeling on the matter was so favorable that the subject of his paper was "Cæsarean Section *versus* Fœtal Mortality." That is to say, he preferred Cæarean operation whenever in the opinion of a competent man the child's life would be endangered by delivery per *vias naturales*. In other words, he estimated the risks of Cæsarean section very lightly. And this represents my own views in the matter, that a Cæsarean section, properly done, under proper conditions, is a safe operation, with an inherently very low mortality, and that the risks of the Cæsarean operation are due to bad management somewhere along the line, either before the surgeon gets the case or after he gets it, and that the Cæsarean operation will in the future have an extremely low mortality. I should think one per cent. or a fraction of one per cent. should represent the mortality.

Dr. BOYD: In reply to Dr. Price's remarks, my feeling is that if we wish to broaden the usefulness of the Cæsarean operation, that in itself would be a claim for an operation which is less mutilating and leaves the uterus inherent.

My own personal opinion is that Porro hysterectomy has about the mortality of symphyseotomy. Porro symphyseotomy has a mortality of ordinary removal of the ovaries. If the operation is done in the cases and under the conditions where I claim it should be done, that is, where the patient is septic, or has a tumor, or malignant growth, I believe the uterus should be removed.

If we hope to broaden the field for the work we should naturally favor an operation that in my opinion is less dangerous. It is surely less mutilating to make an incision, remove nicely the contents of uterus, and close that incision.

The Value of Ethyl Bromide in Gynecology and Obstetrics.

BY FRANK C. HAMMOND, M.D.

(See page 296.)

DISCUSSION.

Dr. WILMER KRUSEN: I have always felt somewhat lonely in advocating the use of bromide of ethyl, because so often, in speaking of it, I

found it had been so little employed. I agree fully with Dr. Hammond that ethyl bromide is certainly the unappreciated anæsthetic which we have at our command, and it is certainly of value in gynæcological and obstetrical work. The laryngologists and the eye men have found it useful—I have had the opportunity myself of administering it for some eye men, so they could see the utility in operations on the eye. It has also been employed in operations on the nose and throat. In confinement work, or where the excessive tenderness and rigidity of the abdominal walls make examination difficult, a small amount of the ethyl bromide relaxes the parts and enables us to make a satisfactory examination and to be more accurate in our diagnoses.

One word in regard to the value of statistics with reference to the use of any anæsthetic. The enormous number of cases in which ether and chloroform have been administered, and the enormous number of cases that have been reported, show how, in order that any statistics should be of value, a large number of cases must be collected. It hardly seems fair to me that deaths which occur several days after the administration of an anæsthetic should be attributed to that anæsthetic, unless pretty clear, definite reason has been shown, which has been sustained by careful autopsy and careful pathological investigation. I do not think there are many deaths reported from ether or chloroform where the patient dies three or four days after the administration. So, in justice to ethyl bromide, it certainly is not right that these deaths should be attributed to it. The question naturally arises in our minds, was there not some pretty clear contradiction to the administration of any anæsthetic; would not the patient have died if any other anæsthetic than the ethyl bromide been administered?

In obstetrics, following the lead of Dr. Montgomery, I have employed it since my graduation, and found it very satisfactory. I have used it, in a few instances, in the cases of physicians' wives, after which the physicians, though not having used it previously, became ardent users of ethyl bromide in obstetric practice.

In collecting some statistics in regard to the use of anæsthetics in labor, I have been very much surprised to find how often a woman says she has had instruments used and no anæsthetic employed. For prolonged obstetric operations, I do not believe in the use of the ethyl bromide. Its use should not be continued over five minutes. Patients have been kept under it forty minutes. I know of only one case in which any untoward symptom manifested itself in the use of the drug. In that there was a slight twitching, which was alarming for the time, but no serious results followed. It does not seem to retard either the

force or frequency of the uterine contractions, or conduce to post-partum hæmorrhage. I have used it in gynæcological work for examinations in nervous women, and have also employed it in several cases for minor operations. Sometimes, in cases in which gauze has been in the cul-de-sac for three or four days after the operation, with the administration of a few whiffs of ethyl bromide, the gauze could be removed without intense suffering to the patient. I believe firmly that if the members of this Society would employ the ethyl bromide, giving it a fair trial, its use would be very much more general than it is at present.

Dr. NOBLE asked, from the chair, whether the ethyl bromide does thoroughly relax the muscular system so that the examination is entirely satisfactory.

Dr. F. HURST MAIER: My experience with the use of bromide of ethyl has been quite large, under Dr. Montgomery and in my own practice. In regard to obstetrical work, as Dr. Krusen says, where the operation is to be prolonged over ten minutes, I should not advise the use of it. But in regard to gynæcological work, Mr. President, you asked the question that has been tested very often, with regard to the thorough relaxation of the muscles; we know how difficult it is in making examinations of virgins, in whom the vaginal orifice is very small and the abdominal muscles very firm and apt to contract. In those cases by the administration of bromide of ethyl we have complete relaxation and the examination is easily made. Another advantage in its use is that you can make the examination alone; the desired quantity is placed on the pillow, and by the time the examination is made your patient is nearly coming out from under the influence of the anæsthetic. In very nervous cases I have first administered the ethyl bromide and afterwards the ether, and found that they worked very well.

Dr. L. J. HAMMOND: Dr. Hammond's paper has been very instructive in giving us additional knowledge of ethyl bromide as an anæsthetic. I think such papers should be encouraged, because of the importance of adding an increase to our therapeutics of anæsthetics. From what has been said, it would seem to be the drug par excellence in cases of labor. It certainly does not agree with my past feeling, and that was that chloroform was the ideal drug. It seems to me that chloroform possesses all the advantages which Dr. Hammond has presented in favor of ethyl bromide. We all know that the condition of congestion of the meninges, which takes place during labor, is markedly overcome by chloroform that serves as an antidote to the congestion. This makes it, therefore, almost invariably a safe agent in labor cases. A very small quantity is requisite, and I have had large experience with its use, with-

out any disastrous effects whatever, a few drops being all that is required, which can be continued for a very long period.

Dr. J. M. FISHER: With reference to the use of ethyl bromide in obstetrics, I am favorably impressed by the claim that the writer makes that it does not interfere with the uterine contractions, and that in consequence of that there is not the danger of subsequent relaxation of the uterus and post-partum hæmorrhage. I have never used ethyl bromide. I have found frequently in the administration of chloroform that it does interfere with uterine contractions. Sometimes the contractions are so reduced in force that it is necessary to withdraw the chloroform for a time, and sometimes altogether, in order to bring about safe delivery. I believe, too, that chloroform, to a certain extent, predisposes to subsequent hæmorrhage. I recall one case in particular in my own practice in which post-partum hæmorrhage took place, I believe, from too free administration of chloroform. I think I shall try the ethyl bromide, and see whether the observation can be borne out in my own practice.

Dr. GEORGE I. MCKELWAY: I have had quite a large experience with ethyl bromide; I have used it, I think, in about a hundred labor cases, and in quite a number of minor gynæcological operations. In labor cases I have had the woman anæsthetize herself. I have an inhaler which gives a concentrated vapor. I tell the woman that when she feels the pain coming on to take three or four deep inspirations. This puts her sufficiently under the influence of the drug to make her drop the inhaler, and so to prevent her administering an amount that would do her damage, and at the same time it renders her unconscious of her pain. I have not found that it influenced uterine contractions in the least, nor have I found that it predisposed to post-partum hæmorrhage.

My friend, Dr. F. J. Hammond, speaks of chloroform comparatively with bromide of ethyl; there is no comparison in the sense that the patient is practically immediately under the influence of bromide of ethyl, and almost as immediately out of its influence after it is withdrawn. Of course, chloroform is very much quicker in its action than ether, but it does not compare in rapidity of action with bromide of ethyl. It is more rapid in its action than is nitrous-oxide gas.

I have attempted once or twice to use bromide of ethyl in forceps cases, but have not persisted, because I feared to use as much as I found would be necessary, and have supplemented it with chloroform. In gynæcological operations requiring five or eight minutes, such as the opening of a pelvic abscess through the vagina, I have used the ethyl

bromide, and the anæsthesia which can be obtained with it is perfectly safe, and the shock to the woman is much less than is brought about by any other anæsthetic. It very seldom causes nausea, and, almost never, vomiting.

Dr. T. A. ERCK: I should like to ask a question with reference to the comparative safety of ethyl bromide; it has been claimed that it is perfectly safe if the administration be not prolonged over a certain time. What is the danger if it is continued for a longer time?

Dr. GEORGE M. BOYD: I have had no experience with bromide of ethyl. It would seem to me that if it has the prompt effect of anæsthesia which has been claimed, does not interfere with labor, and is a drug without danger, it is the anæsthetic par excellence; but, until that is proved, I think we had better stick to the safest anæsthetic, and use the anæsthetic that has the broadest field of usefulness. In using ether in obstetrics we only want to modify the pain, and for this ether suffices. If we want to do a forceps operation, we have the safest of drugs if we use ether. I have used chloroform to the obstetric degree in certain cases, but in many cases the anæsthetic must be left, as Dr. McKelway says, to the patient, and that being the case, in the obstetric case it seems to me ether is the safest, and has probably the broadest field of usefulness, for bromide of ethyl can only be used for a short time. It must not be used for any of the obstetric operations.

Dr. MORDECAI PRICE: I have had no experience with the drug advocated by the writer, but I certainly feel that if it does what he claims for it, it is unquestionably a great addition to our obstetric armamentaria. I am not a believer in anæsthetics in obstetrics as a general rule. I do as Dr. McKelway does—give the patient the ether, and she generally drops it long before she gets much. With the patient etherized in labor, one half of her power for expelling the fœtus is unquestionably lost, the labor greatly delayed, and the chances of secondary hæmorrhage certainly increased. Therefore, if the drug, bromide of ethyl, does what they claim it does do, and is safe, a few moments of anæsthesia could do the woman no particular harm.

In regard to chloroform, I would like to say that I have seen two women die from its effects before the inhaler or towel could be removed from their face when not more than two or three inspirations of chloroform were taken, and all the skill of three or four good men in the room could not save these women. Both of them I admit were septic. Both of them might have died without chloroform, but the chloroform was administered to deliver the placenta and the débris, and both died almost instantly. There was a third case, that of Dr. Collins, which died

almost with the very first inspiration of chloroform for a surgical operation. The other two went to the coroner, and he absolutely ignored the possibility of death from chloroform; said sepsis killed them both. So now neither of them are on record. I, myself, saw them both die. Both of them were abortion cases, and both of them died so quickly that I did not know chloroform had been used.

Dr. L. J. HAMMOND: I am very glad that Dr. Price brought up the question of septic labors in which anæsthetics are to be used. I believe they (septic labors) are the most dangerous conditions in which anæsthetics of any kind can be used. The reduced volume of blood, as well as its altered character, in these conditions is very likely to produce a clot, and in that way, I believe, the patient can die from septic embolism almost as promptly as the cases Dr. Price has referred to. I have no doubt that the chloroform was the cause of the deaths, but I also believe ether would have done the same, and the same result would have met with from any other anæsthetic. I do not think that we in Philadelphia know as much about chloroform anæsthesia as would be well for us. In the South and West they use chloroform very extensively, and the mortality, so far as I know, (and I have had considerable information on the subject), has been no greater than with *ether* with us.

Dr. NOBLE: I believe the two women had abortions and were septic; in other words, were not labor cases. The other case, I understand Dr. Price to say, was a surgical one.

Dr. PRICE: The surgical operation was for the removal of a growth in a man, and the other two cases were abortions, one of them about the third or well into the fourth month, in whom the placenta had been retained. She was unquestionably septic, and the probabilities are that she would have died, but she was breathing quietly when I went into the room. In a few minutes I was told that she was dead. In reply to my inquiry of what anæsthetic had been used, the physician said chloroform. I told him he would have to report this to the coroner to avoid any trouble. He did so, and the coroner said: "Sepsis, to be sure."

I do not believe that ether kills in septic cases; if it did, we would kill some one every day. On the contrary, I believe it a life-saving article. I have kept patients alive longer under it than I could have if it had been taken away. I recall one case of a ruptured uterus in which I etherized the woman and removed the child. As long as we kept up the ether the woman breathed. I believe ether to be a valuable stimulant at times.

Dr. A. G. STAUNTON of Charlestown, W. Va.: I regard myself very fortunate in happening in at this time. This subject is of exceeding interest to me. I began my medical training in Philadelphia, and went back to my home with the idea that ether was the only thing to give. But for the very unpleasant after-effect of ether, which is almost universal, I should probably not have been won over to the idea of giving chloroform at all. I am very much afraid of it. I have used it in obstetric cases, but I am afraid of it, and have always been. I have known within my own immediate practice one death, at least, under chloroform in the hands of a careful man, and I always give it with a sense of discomfort. I think, if the case dies, I cannot help reproaching myself, feeling that it is generally admitted a more dangerous anæsthetic than ether. I have had no experience with the bromide of ethyl, and have been very much interested in the discussion to-night. We are in the smaller cities are in the habit of contenting ourselves with the single anæsthetic, and not branching out or trying new things as much as in the larger cities. I am persuaded, from the remarks to-night, and the experience of those whom I have heard, that it is an anæsthetic worth trying, and I shall try it in my own work.

Dr. R. B. STAUNTON of Charleston, W. Va.: I have given chloroform a good trial since I have been in the South, and I give it with a good deal of nervousness, though I have never had any ill effects from it. I know nothing about ethyl bromide, not having used it.

Dr. E. B. GLENN of Asheville, N. C.: I received my medical training also in Philadelphia. Ether was used here almost exclusively. Since I have been in Asheville chloroform has been used there almost exclusively. I have seen one death from chloroform in a septic case since I have been there. I have seen none from ether. I have used ethyl bromide a few times, but I have found no one where I live who has used it, and have found some difficulty in having it used. I think it an ideal remedy for that for which it is recommended, for an immediate examination where a short anæsthesia is required.

Chloroform I have always considered the safest anæsthetic of any of the general anæsthetics in labor. I have never seen any bad effect from it, or a post-partum hæmorrhage. I have never seen a death from it in labor, and have never seen any complications. I allow the patient to take it herself. Ether is given a very few times in labor, and that is when I cannot get the chloroform. I saw once an almost fatal case from a very few inhalations of chloroform, but there was a slight heart complication. The case was in the hands of a very careful physician, a man of large experience, and for the first time, he said, in his life, he

was frightened from the use of chloroform. The operation was for strangulation; we stopped the anæsthetic and proceeded with the operation. My experience in the South is that chloroform is the safer of ether or chloroform. Bromide of ethyl I use sometimes.

Dr. PRICE: Speaking of deaths from chloroform, only a few weeks ago one of the chief surgeons of Baltimore had a boy brought to his office by his parents for operation. In a few minutes the father came out from the office and told the mother the child was dead.

Dr. FISHER: In my experience a woman appears to be particularly fortified against the evil influence of anæsthetics during labor. I would like to ask the Society whether or not within the experience of any one here a woman has been known to die under the anæsthetic given in labor?

Dr. PRICE: Dr. George Pepper had a woman die while he was putting her under chloroform.

Dr. L. J. HAMMOND: I know of one case that died under ether during labor—a case in the Southeastern Dispensary, a negress, primipara, unusually fat, and had taken less than four ounces.

Dr. GEORGE I. MCKELWAY: I think it is only fair that we should remember that there are two elements in anæsthesia, one is the anæsthetic and the other is the anæsthetizer; and sometimes the anæsthetic may be blamed for what is the fault of the anæsthetizer.

Dr. CHARLES P. NOBLE: Bromide of ethyl was one of the first anæsthetics I ever saw used. I think it was introduced into this country, practically, by Dr. Chisolm of Baltimore. He gave it many hundred times before the use of cocaine in eye-work—that is, prior to 1884. He used it for all his eye operations, and was very partial to it. Dr. Chisolm was an opponent of ether, and had, perhaps, the largest experience with chloroform of any one in this country, and, as he used to report, without any fatal cases. Dr. Chisolm's method of administering the bromide of ethyl put the patient asleep in fifteen to twenty seconds. He put one-half dram of the drug in an air-tight cone, and excluded air until anæsthesia was secured. I might say as to the deaths from chloroform, ether, and bromide of ethyl that I am quite sure no matter what anæsthetic is used somebody is going to die. I can say that I have had at least two deaths from ether. The same day that I had one of these deaths there was another one in the Howard Hospital and one in the Johns Hopkins Hospital; in other words, there were three deaths in one day from ether within a limited area.

Dr. F. C. HAMMOND: My reason for presenting a paper on the bromide of ethyl is that in looking over the Transactions of the Society

I failed to find that a paper had been presented to the Society on this drug. I find that quite a number of practitioners in the State and country have never heard of the drug, and that numerous others who have heard of it have never employed it. Therefore, the object was to bring out the discussion, and the gentlemen certainly have responded liberally.

In regard to muscular rigidity, we do meet it once in a while; cases in which the patient will become rigid, the rigidity being more marked in the arms and legs. In these cases, as a rule, withdraw the anæsthetic and allow the rigidity to subside, and then try again. If, upon two or three endeavors, the rigidity continues, the best thing to do is to use chloroform or ether, and I am in favor of chloroform. Some observers have reported the rigidity so marked as to amount to opisthotonos. I have never seen it, and several gentlemen who have employed this anæsthetic have not met with this extreme rigidity.

In regard to the ideal anæsthetic for obstetrical cases, I think that ether is a rather slow-acting drug, and it is used mostly by men who are afraid to use either chloroform or ethyl bromide or men who are not willing to stand up to the responsibility of the drugs which they are using. What we desire in obstetrics is an anæsthetic that will quickly alleviate pain, that is, "take off" the "keen edge" of the pain, and yet allow the patient to maintain her intelligence and be able to act in accord with the obstetrician. In the administration of ether, by the time the pain has subsided, oftentimes deep anæsthesia is produced, which we do not want. In using a drug for producing obstetrical anæsthesia, the object is to take the "keen edge" off the pain, and to employ a drug which will not favor post-partum hæmorrhage or depreciate the strength of the muscular contractions, and at the same time leave as little disagreeable effects as possible. There is no doubt of the fact that ether does leave a great many disagreeable after-effects. The nauseating, and oftentimes vomiting, are certainly very disagreeable, and often the odor is markedly present in the child after birth, and it can be detected for some three or four days. This will seldom be observed in chloroform or bromide of ethyl, in which the odor passes away in a few minutes. The majority of men speaking against bromide of ethyl do so without thinking of the collection of cases in which it has been employed. The fact of one man using ether entirely and exclusively in his practice shows a narrow-minded view, because you should select your anæsthetic according to the patient. Bromide of ethyl administered first to produce anæsthesia, and this maintained by chloroform or ether, whichever drug to be employed renders satisfactory results, by eliminating the fear and dread apprehended by the patient.

In reply to the question why the bromide of ethyl should not be continued for more than ten or fifteen minutes: The tendency to paralysis of the respiratory tract becomes greater the longer anæsthesia is maintained, bromine poisoning resulting. For a brief space of time the danger is eliminated.

Clinical History: A Case of Pyosalpinx; Fæcal Fistula; Recovery.

Dr. WILMER KRUSEN: The following history presents one of the unpleasant sequels that may follow a severe abdominal operation. The difficulty in dealing with this condition and the unexpected result obtained are the chief reasons for describing the case. The patient was first seen, in consultation with her physician, Dr. Charles B. Smith of Newtown, September 11, 1898, and the following history obtained: The patient, Mrs. R. W., aged thirty-two years, married, had had one miscarriage several years previous; had been under the care of Dr. Smith for eight weeks. Her condition at his first visit indicated mild septic infection. The symptoms were chilliness, slight elevation of temperature, abdominal tenderness, pain over the lower part of the abdomen, and some vesical irritation; also, profuse leucorrhœa. She had had inflamed condition of the vulvo-vaginal glands two years before, and a previous illness presenting similar symptoms while under the care of another physician several years before. On examination there was found a fluctuating mass on the left side of the uterus, very tender, and easily outlined by bimanual examination; a more indistinct mass could be felt on the left side; diagnosis of pyosalpinx was made and an operation advised.

The patient entered St. Joseph's Hospital on September 19th, and the first operation was performed on September 21st. A mesial incision was made, and the uterus and its appendages were found to be one conglomerate mass, filling the pelvis; sigmoidal and rectal adhesions were present and well organized, and there was every evidence of a long-standing disease of the appendages. The adhesions were so dense that no line of cleavage was discernible, and the pus was evacuated and the pelvis irrigated before the enucleation was accomplished; the left appendage was then removed and pedicle ligated; subsequently the right tube and ovary were removed, with much less difficulty, although there were some appendical adhesions so frequently found in these cases. The sigmoid flexure and the anterior wall of the rectum were firmly adherent to the purulent mass, and the peritonæal coat of the intestine was injured in two places, which were immediately closed

with a silk-seroserous suture. Dr. Hammond, who kindly assisted in the operation, introduced a finger into the rectum in order that any injury low down in the Douglas cul-de-sac might be detected. After hæmostasis was secured, a gauze drain was introduced and packed firmly into the pelvis, to insure the control of oozing from the denuded surfaces, and the abdominal incision closed with figure-of-eight silk-worm-gut sutures. The patient's condition at the conclusion of the operation was fairly good, and no complications were apprehended, but, alas, "the best-laid schemes of mice and men gang aft agley." Gas was expelled freely, and the bowels moved per rectum on the second day after operation; but on the third day it was noticed that the dressings were soiled with a very slight, suspicious fæcal discharge; the amount of this discharge increased daily, until by the sixth day the entire fæcal current passed through the fistulous opening and none per anum. The dressings were changed and the rectum irrigated frequently, with the hope that spontaneous closure might occur. The remainder of the abdominal wound healed by first intention, and the sutures were removed on the eighth day. As there was no diminution in the fæcal discharge, on October 7th, the seventeenth day after the first operation, with the kind assistance of Dr. J. M. Fisher, I reoperated on the case. The original incision was slightly enlarged, the adherent intestines and omentum separated, and an opening large enough to admit a finger was found low down on the anterior wall of the rectum, about four inches from the anus. The rectum was freed from the surrounding adhesions, and relaxed as much as possible, to prevent undue tension on the sutures. An assistant introduced his finger into the rectum, so that the exact site of the injury and its definite relations could be obtained. A large-sized rubber tube was then introduced through the anus and grasped with forceps and carried above the opening in the rectum into the sigmoid flexure; with a great deal of difficulty the sutures were introduced, bringing the two sides of the opening together; as accurate approximation as was desirable could not be effected, because of the inaccessible position of the bowel opening; but we did the best we could, relieved the angulation of the bowel, loosened the sigmoid flexure, and with a provisional suture held it in a relaxed position; the omentum was brought down and used to separate the pelvic from the abdominal cavity; a twist of iodoform gauze and a rubber drainage-tube were introduced, and the incision closed with interrupted silkworm-gut sutures. The rectal tube was permitted to remain in position until the bowels moved. A very slight amount of fæcal matter came through the abdominal incision for two

or three days, but this soon ceased entirely and the subsequent course of recovery was uneventful.

The instructive points in this case are:

1. The possibility of extensive pelvic abscesses, which tend to evacuate into the rectum, being followed by fistula many days after operation.

2. The value of drainage, in all suspicious cases, where there has been unavoidable injury to the peritonæal or muscular coat of the intestines, even though those injuries have been recognized and carefully repaired.

3. The diagnosis of the position of the fistulous opening by the injection of saline solution into the rectum, the fluid appearing quickly at the external opening.

4. The relaxation of the parts sutured and the relieved tension so necessary to secure union in intestinal suturing.

5. The value of a large drainage-tube or rectal tube, which can be readily introduced and carried beyond the injury, acting as a guide or splint over which to suture, and permitting expulsion of gas and liquid fæces until healing is initiated.

6. The fact that a general and fatal peritonitis was escaped by the rapid formation of limiting adhesions.

A fæcal fistula is certainly one of the most annoying and disagreeable of the sequels of cœliotomy, always very offensive, and often very exhausting to the patient, and a constant source of regret to the surgeon. The majority of these cases heal spontaneously, though often only after many long, weary months; other cases are persistent, and show little or no tendency to spontaneous closure. The most important and constant elements in persistent fæcal fistulæ are the presence of an internal spur, the immediate union of the bowel mucous membrane with the skin, extensive loss of the bowel substance, or angulation of the bowel opposite the point of external opening, so that a spur-like fold or valve is formed within it.

DISCUSSION.

Dr. FISHER: I do not think I can add anything of interest to the case, Dr. Krusen has covered the ground so well. I assisted him in the operation. The operation had to be done at a great distance from the point of opening because of the very fat abdomen of the woman and the close attachment of the bowel to the pelvis. He had a great deal of difficulty in passing the sutures, and several times they had to be

removed and new ones introduced. Neither he nor I looked forward to the case resulting very satisfactorily, although the fistulous opening was closed after he was through with the operation. The location of the opening, the tension upon the sutures, and the presence of the drainage-tube in the bowel indicated to me that there would be so much irritation about the point of suturing that the parts would again break down, which was the subsequent history of the case, and there was some faecal discharge through the opening.

The point of special interest to me is the fact of introducing drainage. I remember that several years ago I ruptured the bowel in removing a pus collection. I was so confident that the suture, which I immediately placed, had been done so well, that I thought it unnecessary to introduce drainage. The patient developed septic peritonitis and died. I have seen a great number of faecal fistulae, following a ventro-sus in the great majority of cases healing took place without subsequent operation. I recall one case of faecal fistula, following a ventro-suspension, which persisted for a number of weeks, at a subsequent operation I found and closed the opening, and the patient recovered nicely.

Dr. Krusen is certainly to be complimented upon the recovery of his case. If the members of the Society could have seen the difficulties he encountered in finding the opening, separating the layers of fat, and the difficulties in closing the opening the fact would be greatly appreciated that he feels very grateful for the recovery of the patient.

Dr. Krusen's paper certainly opens up the whole field of abdominal surgery for pus. I do congratulate the Doctor upon the recovery of his case, and more particularly upon the recovery after the second operation. I am positive that had he left the patient alone she would have got well. I have seen the whole contents of the bowel come through the abdominal wound quite a number of times. The longest time I remember the discharge lasting was four weeks. The very fact that the injury was three or four inches from the abdominal peritonæum gives a long tract for shrinkage. Had that bowel been almost or entirely in contact with the abdominal wall, the chances for closure would have been less. In such instances they must be closed by surgery. This brings up the whole subject, in which I maintain that no man should go in through the vagina to do something that he must do blindly; he must, of necessity, in this way open the pelvic abscess blindly. He does not see what he is doing; he doesn't even feel what he is doing. In Dr. Krusen's case, he went in from the abdomen, was perfectly conscious of the fact that the bowel was involved in the pelvic viscera. He had to decide what to do, and in doing so he also deter-

mined upon the treatment. He determined to repair all the injury done to the bowel and fat, and he would have succeeded, even with a bad tear of the walls of the rectum. Had the Doctor not used drainage he would have lost his case almost beyond question. I prefer glass-drainage to gauze, and place the glass down close to the bowel. It has been said that glass drainage produces fæcal fistulæ. This is a mistake. I have seen it placed in dozens of cases where the bowel was badly injured without resultant fistula. When fistula does result, you have a perfect opening for the discharge of fæces through the tube.

Dr. L. J. HAMMOND: There is one point of great importance brought out by Dr. Krusen's paper, and which surgeons are recognizing more and more as time goes on, *i. e.*, that operations can with advantage be delayed much longer than formerly it was thought wise. To-day the teaching is to wait until pus forms; and you can wait sometimes after it has formed, as illustrated by Dr. Krusen's case. My own practice is not to be in too big a hurry in doing pelvic surgery. I get better results when I have pus than in operating during the acute inflammatory stage; the so-called catarrhal inflammations are medical rather than surgical conditions.

Dr. CHARLES P. NOBLE: I think a secondary abdominal operation for a large fæcal fistulæ is about as serious an operation as a surgeon can undertake, especially in a fat woman, where the mechanical difficulties are so great; and when undertaken so early, before the exudate due to the primary peritonitis has been absorbed.

As to the general problem of how fæcal fistulæ behave, my experience has been that of Dr. Price, namely: I have never seen a case of fæcal fistula, resulting from an abdominal section, that didn't close up very promptly, if you left it alone. A little extra time spent in reinforcing the bowel sutures would avoid the necessity for drainage, by guarding against leakage from the bowel in most cases—in practically all when the wound in the bowel is accessible. In all such cases drainage should be avoided, as I am satisfied it promotes the formation of fæcal fistulæ. The field of drainage in such cases should be restricted to injuries of the bowel which are so inaccessible as to preclude careful suturing, and to those cases in which, owing to the condition of the bowel, the sutures will not hold.

Dr. GLENN: I had an opportunity some time ago of seeing a case very much like that described by Dr. Krusen. It was a case following laparotomy. The surgeon, in dissecting away the adhesions, which were very extensive, tore a hole in the larger bowel. It was down near the head of the cæcum, and was really an artificial anus. Of

course, the bowel opened itself through the abdomen, and I insisted that the abdomen be opened, believing that the opening was in the right iliac fossa, and that an impaction of fæces would be found. After some delay the abdomen was opened, and the condition such as I anticipated was found; a large mass, two or three inches in diameter, of fæcal impaction in the right iliac fossa. Of course, the patient died; more from the shock of the operation than anything else, because it had been delayed so long.

Dr. WILMER KRUSEN: In conclusion, I can say I do not envy the position of any man who undertakes to operate on a case of fæcal fistula. If the cases will get well without operation, it is certainly desirable. The fact still remains that every case is a law unto itself. In this case I decided to operate because of the large amount of fæcal matter which was passing and because there was no evidence of healing. I recall one case in which all the fæcal matter came through the fistula for two or three weeks, which healed spontaneously. In another case (tubercular) of which I have knowledge all the fæcal matter came through the abdominal wall, and the patient died of exhaustion. Several attempts were made in this latter case to close the opening, and the patient recovered from the operation, but the bowel broke down again. A few months ago I saw a patient of Dr. Hickey's, a man with tubercular disease, who had a fæcal abscess which had persisted for some time, but which was healing up slowly. We all know how very unpleasant these cases are. It is not pleasant to send a patient out of the hospital with an artificial anus. I had known the woman upon whom I operated for several years, and felt that I knew her resisting power.

The Trendelenburg position was used in this patient, and, I think, to advantage.

In regard to Dr. Noble's remarks about too much drainage, I think all of us are using drainage less frequently than formerly, and that we rely upon postural drainage more than by the tube. I would say, however, that in the repair of a bowel injury I would use drainage. I do not agree with Dr. Noble that possibly if the case had been allowed to go longer the opening would have been more easily found.

Specimen of Adhesion Bands in a Case of Suspensio Uteri.

Dr. CHARLES P. NOBLE exhibited a specimen of the adhesion bands formed in a case of suspensio uteri. The operation had been done as the final step in the usual series of operations for procidentia uteri.

The technique of the operation was defective, in that the suture material was infected, and both the peritonæum and the pelvis suppurated, the pus appearing in the abdominal wound about two weeks after the operation. I had supposed that this would result in very extensive adhesions between the uterus and abdominal wall, and as the patient is a young woman I had felt uncomfortable lest she should again become pregnant. I was, therefore, rather pleased to have her present herself with a small hernia at the site of the former sinus. On opening the abdomen, instead of an extensively adherent uterus, there was found these two strings of adhesion over two inches long, connecting the fundus with the abdominal wall. The fact that such a case could escape a "ventro-fixation," I thought, was of sufficient interest to show the specimen.

Official Transactions.

FRANK W. TALLEY, *Secretary.*

CORRESPONDENCE.*

CASE OF PUERPERAL ECLAMPSIA WITH UNUSUAL SYMPTOMS.

SARATOGA SPRINGS, N. Y., February 15, 1899.

Editor of the American Gynecological and Obstetrical Journal:

SIR: In the January number of your journal the New York Obstetrical Society presented and discussed in their Proceedings a case of puerperal eclampsia in which the pathology was a feature. This to us all is of interest, and I send you the following notes of a case. It is of moment particularly as the quantity of urine secreted was a trifle above normal; because of this a more favorable prognosis was given, yet the patient died in what we termed uræmic coma.

Mrs. H., age 35, multiparæ, six-months' pregnant. About a week before this time she consulted me concerning my services at the birth of the expected heir. She had been in her usual health, and came to the office at this time. I directed her to send me a specimen of urine at once, as her feet had been swollen some and she had had headache. With this exception her pregnancy had been uneventful. The urine

* Received too late for insertion in usual position.—EDITOR.

was examined the following day; it was marked by albuminuria, with casts, but my record does not show the character of the casts. The urea was normal and the quantity in 24 hours was four pints.

The following day I was sent for and found her suffering most intense headache and pain in the abdomen. I was forced to give her hypodermatically $\frac{1}{4}$ gr. morphia and $\frac{1}{150}$ atropine. This mitigated the distress. Three hours after I saw her she had a convulsion, another one in an hour, and a third one after another hour. Her pulse was full and strong, with much tension, 120 to the minute. Upon inquiry it was demonstrated that the kidneys had been unusually active during the 24 hours. Immediately after the first convulsion I gave her 30 \mathfrak{m} . tincture veratrium veridæ hypodermically, and then gave her 5 drops every 15 minutes until the pulse came down to 50. Gave her 30 grs. chloral and 10 grs. calomel. This was July 30th.

Aug. 1.—The condition of the patient has been good since the convulsion, pulse 60, temperature normal. Bowels acted freely from the calomel, urine secreted in the past 24 hours by actual measurement three pints. About three P. M. patient miscarried, with very little premonition.

August 3.—During the past 24 hours the patient has been exceptionally well, tem. normal, pulse 72, and the urine for the 48 hours has been $6\frac{1}{2}$ pts.

56 hours after the miscarriage she was taken with a severe convulsion, and during the next twelve hours she had a convulsion about every half-hour. We attempted to control them by chloral by the rectum and chloroform inhalations at the time of the convulsion. These convulsions were followed by coma which lasted 24 hours, when dissolution occurred.

At this time conditions were much as I have described them, except not quite so aggravated, the bromide and chloral continued, free result from the calomel.

The next morning, 48 hours after the initial attack, she seemed quite herself, and, with the exception that her throat and larynx were very sore, as one might expect they would be from the continuous effort at talking for 36 hours. She comprehended what was said to her and answered in a rational way.

My object in presenting this case is to have the pathological condition discussed.

D. C. MORIARTY, M.D.

THE
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APRIL, 1899.

REMINISCENCES OF THE FOUNDERS OF THE WOMAN'S
HOSPITAL ASSOCIATION.*

BY THOMAS ADDIS EMMET, M.D., NEW YORK,

Surgeon to the Woman's Hospital in the State of New York.

In 1853 I lived on Fourth avenue just above Twelfth street, a locality then well up-town, since many of the wealthy people still lived to the west of the City Hall and along Broadway. One afternoon in the autumn, as I was walking with a companion on the outskirts of the city, we passed a solitary house standing on the east side of Madison avenue between Twenty-eighth and Twenty-ninth streets, and on the site of my present residence. The neighborhood was in that desolate transition-state between country and town, in which the picturesque domicile of the recent immigrant and the sportive goat are the most prominent features of the landscape. As I passed this house I read the sign of a physician then unknown to me. While commenting on such a situation for a physician the name attracted the attention of my companion who exclaimed: "Why, it is Dr. Sims who lived in Montgomery, Alabama! I do not know him very well but I have heard he was ill and would like to call." After ringing the bell and while standing at the door I noticed several vessels passing on the North River, in which direction the view was unobstructed. No other dwelling-house was to be seen in the vicinity nearer than the backs of several on the north side of Twenty-second street and two old taverns on the Bloomingdale Road, at the present site of the Gilsey House and just

* In response to numerous requests we reprint this article which appeared originally in an early issue of this JOURNAL (May, 1893). The article is of such historical interest in relation to individuals and to the birth of gynæcology that we feel we owe no apology to our readers.—EDITOR.

beyond that of the Fifth Avenue Hotel. While in the parlor I recollect looking out of the back windows where quite a number of country-seats were to be seen towards the East River, with an unobstructed view of passing vessels and of the old Almshouse, which had recently been organized into the present Bellevue Hospital.

I was introduced to Dr. Sims who was a remarkably young-looking man and evidently in very bad health. I parted from him after a few moments with no expectation of ever meeting him again. In May, 1854, a public meeting of the profession was called at the Medical College of the University of New York, then situated on Broadway and, I believe, nearly opposite Bond street. The object of the meeting was to introduce Dr. Sims, who was to present a new method of curing vesicovaginal fistula. The meeting was called chiefly through the influence of Dr. Valentine Mott, Professor of Surgery, Dr. John W. Francis, then a prominent practitioner of medicine, and greatly through the efforts of a much younger man, Professor Fordyce Barker, who was at that time president of the most influential medical body in the city, the New York County Medical Society.

The plan for establishing a Woman's Hospital had been freely canvassed by the profession, in advance of the meeting. The most uncompromising opponent was a Dr. Meredith Reese, a free lance in the profession and a man with a grievance. He had recently been removed from the position of Physician-in-Chief of the Almshouse, and he wielded a certain amount of influence as editor of a medical journal then published in the city. He maintained that the field was too small a one for a special hospital; for he thought any one could apply nitrate of silver to an ulceration with a cylindrical speculum, that an astringent injection was all that was needed to cure a leucorrhœa, and "there was no difficulty in introducing Physic's globe-pessary for prolapsus." He thus summed up what he believed constituted the whole range of the diseases of women which needed special attention, and even these, he considered, could be quite as well treated in a general hospital.

But the meeting was held and, notwithstanding the opposition before it of a few persons, it proved a great success. It roused not only the profession to an endorsement of the necessity of a special hospital for women, but the public at large became quite interested in the movement. There seems to have been, however, no money forthcoming, and but for the persistent efforts of a few individuals the whole matter would soon have been forgotten. A new impulse was given by acting on the advice of Dr. Barker, that a committee of ladies be selected to take charge of the organization. I learned from the doctor himself, a short time before



4 DR. MOTT.



DR. MARION SIMS.
1857.

his death, that the selection was left to him and was made from among his own patients with the single exception of his wife, whom the ladies themselves elected as their first secretary of the Board. A representative man had been chosen from each of the medical colleges in the city, to form a Consulting Board of Physicians. Dr. Mott and Dr. Alexander H. Stevens were the Consulting Surgeons, and Dr. Delafield, Dr. Francis and Dr. Horace Green the Consulting Physicians.

A dozen or more houses had been erected in the neighborhood referred to on Madison avenue, shortly after my first visit to Dr. Sims. One of these, then known as 83 Madison avenue, now 93, and on the present site of my private hospital, was taken on a short lease by the ladies of the Woman's Hospital Association. Their object was to obtain a place where Dr. Sims might demonstrate his operation for closing vesico-vaginal fistula. For at first it seemed to many that there was more need of a special hospital for cases of fistula than for the special diseases of women, of which so little was then known. These facts I learned after I became connected with the organization. I was present at the meeting held in the spring of 1854 but, though the subject interested me in a general way, the matter soon passed out of my mind as something with which I had no further connection.

I must now ask your indulgence for an apparent digression, while I cite a few points connected with my own immediate history, which will have its bearing later on.

In 1850 I received the first permanent appointment made on the Resident Staff of the Emigrant Refuge Hospital, Ward's Island, after its reorganization with a Visiting Board of twelve physicians and surgeons. It soon became one of the largest hospitals in the world and was, I believe, one of the best schools for obtaining a thorough and practical knowledge of every branch in medicine. The experience of over five years in that institution embodied more than a life-time, under ordinary circumstances, in general practice, and it fitted me to become a specialist in after years. My term of service was two years, and a few weeks before it expired I was appointed, much to my surprise and gratification, Visiting Physician by the Commissioners of Emigration. When placed in this responsible position and made the peer of some of the most distinguished members of the profession in New York, I was eighteen or twenty years the junior of the youngest man in the Board. As my duties at the hospital occupied but a portion of my time, I was now enabled to resume the practice of medicine among the tenement-houses, then chiefly situated on the east side between Eighth and Fourteenth streets. I soon gained a competency sufficient, at twenty-five

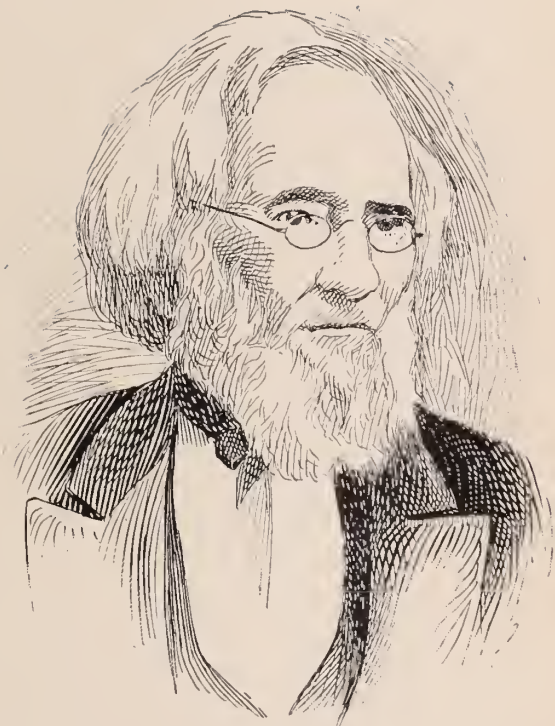
cents cash, or a dollar a visit if charged, with the addition of four dollars a day for visiting the hospital, to marry and settle down as a fixture.

Some time in the winter, I think of 1854-5, a great political change occurred. The Commissioners of Emigration were removed and, notwithstanding the fact that none of us had taken part in politics, we all lost our places to make room for the "political doctor," who had to be rewarded for his services to the party.

As part of my service in the hospital I had had over two thousand cases of "ship-fever" or typhus under my care. I set about tabulating the features of the history of each case, under some appropriate head, with the purpose of arriving at the etiology of the disease. Late one night in March, 1855, I was engaged in this work in my office, having no idea of the hour as a snow-storm had been raging all day and the general quiet was very conducive to continued mental effort. I was suddenly startled by a loud rap on my window, and on opening the door I admitted Dr. Sims, whom I did not recognize. He apologized for disturbing me but, knowing no one else in the neighborhood and seeing my light, he had come in to get warm. His car had gone off the track and he feared he might have to walk home.

No man could make himself more genial, especially to young men, than he and, after asking me some questions about the work spread out on the table before me, he soon became interested in the subject and, I recollect, to a very flattering degree. Suddenly he turned to me and said: "You are just the man I am looking for. I have spent all the evening with some gentlemen in organizing a hospital for the treatment of the diseases of women and, though according to the by-laws my assistant must be a woman, if you will come up to 83 Madison avenue to-morrow morning at nine o'clock I will show you something you have never seen before." I was punctual the following morning and then made my first acquaintance with old Mary Smith and with Margaret Brennan, the nurse. The former was a patient sent by Dr. Mott and, I believe, the first and only one yet admitted. The latter, Margaret Brennan, you all know. Mary Smith had but recently landed, an immigrant from the west coast of Ireland, and her condition was deplorable.

I saw for the first time the application of Sims' speculum and the knee-chest position used. But I was unable to say what I did see, beyond the fact that the patient's body in the neighborhood of the vulva seemed greatly excoriated by the escaping urine and that she was a most offensive and loathsome object. A grayish mass projected into the vagina which seemed to be an immense stone.



DR. DELAFIELD.

But as Dr. Sims investigated the case, he found that she had a vesico-vaginal fistula, which appeared to extend from one side of the pelvis to the other. The bladder was filled with a wooden float from a seine-net, which was about the size of a goose-egg. This had been introduced by the local medical attendant before she left home, to prevent hernia of the bladder, which otherwise would have become filled with intestines and protruded through the fistula and out through the labia. The float had become encrusted with a thick deposit and was thoroughly saturated with phosphatic urine. After a remarkable display of patience and dexterity, Dr. Sims finally succeeded in removing it. It was done, however, amid her screams from intense suffering, for it was before the general use of anæsthetics. I saw the first administration of ether in Philadelphia, I think in 1847, and yet anæsthesia did not come into use, at least in the Woman's Hospital except for special cases such as ovariectomies, until about the close of our Civil War.

The history of this case, the first admitted to the Hospital and of whom many of you have a personal recollection as a nurse, is not without interest. Of the many hundreds of like cases admitted after her and cured, she alone, after some thirty-four operations, is now incurable. Dr. Sims operated upon her a great many times without apparently gaining anything, but at length, and shortly before he went abroad in 1861, he did succeed in bridging over the base of the bladder and in preventing the fundus from prolapsing into the vagina. He made, however, no attempt to form a urethra. After I became Surgeon-in-Chief I made for her a new urethra and gained for her retentive power, so that she was enabled to discharge her duties as nurse for six or seven years. After that length of time she began to suffer from irritability of the bladder, due doubtless to cold from exposure and brought on by her constant imprudence. She did not consult me but saw Dr. Sims, who found a small stone in her bladder. He decided to dilate the urethra for its removal and did so against my protest, for I knew the character of the tissues which I had united would not bear the strain. He dilated, however, the stone was removed, and she has continued to this day without any retentive power. The operation was done shortly before Dr. Sims resigned from the Hospital, so that he had no opportunity afterwards, if he had contemplated it, to make an effort for her relief. For years past, as most of you know, she has been a common street beggar, and she would no doubt have been unwilling to lose part of her stock-in-trade, even if it had been possible at her age

and in her condition to have attempted any further surgical procedure.*

For various reasons, but chiefly from the fact that I had no official position, I was unable to do much at the Woman's Hospital until the autumn, or early winter, of 1855. I was then appointed Assistant-Surgeon with full power to act in the absence of Dr. Sims. Being thoroughly familiar with the details of hospital management, of which Dr. Sims knew little, I was able to render efficient service and he was glad to be relieved of all detail work.

I began a systematic registry of the history of all cases, with descriptive drawings. I started a clinic and, after the first year, did quite as many, if not more, operations than Dr. Sims, whose private practice was already beginning to demand a great portion of his time.

Of the first Board of Managers, beyond a social acquaintance, I have little recollection or of their special work, save that of Mrs. David Codwise, the first Directress, and of Mrs. T. C. Doremus. Mrs. Codwise was well advanced in years yet she took a very active part. I have been told in forming the organization, in obtaining the act of incorporation from the Legislature, and in collecting funds from among her friends for the early wants of the association. But Mrs. Doremus is the one most closely associated in my mind with all the early struggles made from day to day to establish the Woman's Hospital after it had ceased to be a novelty, and, owing to my position, I was thrown into closer relation with her than with any one else. The piety and faith of this good woman were remarkable. I cannot say more in praise of her than to compare her work with that of a Sister of Charity who, devoting her life to the service of others, is actuated alone in the discharge of her duty by the love of God and of her neighbor. I well recollect on more than one occasion, when we met in the morning, Mrs. Doremus has said: "Doctor, we have not a dollar in the house and it will soon be time for me to go out to get something for dinner." I would jokingly say: "Well, Mrs. Doremus, how is it possible to get something for nothing?" "The Lord will provide in time," she would answer. The dinner was always forthcoming, for she would not go very far before she met some business-man who would give her five or ten dollars for her purpose.

Mrs. Elisha Peck, who afterwards became Mrs. Abernethy, was a member of the first Board of Managers, and she has continued with great singleness of purpose to serve the hospital to the present day. Mrs. Abernethy and myself have outlived every one else connected with

* This woman was run over in the street shortly afterwards and died in consequence of the injuries received.



MRS. WOREMUS.



MRS. ABERNETHY.

the early history of the Woman's Hospital Association, and I sincerely hope she may be spared many years longer for her good work.

As I have stated, the Consulting Board was selected from the Faculty of each medical school in the city. Dr. Delafield was of the College of Physicians and Surgeons but seemed to take little interest in the beginning of the hospital, nor do I recollect ever to have seen him at a consultation during Dr. Sims' service.

Soon after the hospital was opened I was present at the first consultation. The case was that of a young woman with what was thought to be a movable tumor in the abdomen. The mass may have been a floating kidney, a pedunculated fibroid, or nothing more than a phantom tumor, as Dr. Sims had not yet reached that proficiency in diagnosis for which he was so noted in later life. He held, however, that it was a fibrous growth connected by a slender attachment to the uterus, and he wished the sanction of the Consulting Board to open the abdomen and remove it. He made so plausible a plea that at one time it seemed as though he would carry the Board with him in favor of the operation. All had spoken favorably when Dr. Stevens rose. He expressed his great interest in the subject but said he knew nothing about a fibrous tumor; doubted, in fact, if he had ever heard of one before. He felt every confidence in Dr. Sims and had no doubt that he would be successful, if he undertook the operation. But he protested, in the name of humanity, against such a procedure, for, if Dr. Sims was successful in the removal, it would not be long before every young doctor in the land would be opening the belly of every young woman to see if she had a fibrous growth. Surely the Spirit of Prophecy must have hovered over the old man, as he thus had a glimpse into the future.

Dr. Stevens was Surgeon to the New York Hospital then standing on Broadway opposite Pearl street, in the midst of about four acres covered with forest trees. He had the reputation of being a skilful and successful operator, but he was withal a very eccentric man. In the spring of 1850 I made an effort to obtain the nomination for the house-surgeon-ship of the New York Hospital. I did not then know Dr. Stevens personally, though he had been an old friend of my father. So I called upon him one morning at his residence on Fourth street, near the Bowery, to ask for his influence. When I was shown into his back-parlor office, he was walking up and down the room with his hands behind his back and in deep thought. Upon my addressing him, he recovered himself but refused to hear anything I had to say. Placing a pen in my hand he pushed me into a chair alongside the table and told me to write. He had evidently been lying in wait for some victim and

proceeded at once to dictate his eulogy on John C. Calhoun, who had been a fellow-student with him at Yale College. In spite of my protests I was obliged to write until the task was completed, about two o'clock in the afternoon. I was then pushed out of the room and told to come back to breakfast the next morning, when he would hear what I had to say. I was punctual but did not get my breakfast. The old gentleman complained that my hand-writing was atrocious, and, receiving the information that he did not have the appointment for that year, I was shown the door.

Dr. Stevens was very simple in his tastes and used few instruments. He always carried in his pocket an old, stained, and rusty-looking curved bistoury, with which he seemed to be able to do almost anything in minor surgery. Some years later I had frequent occasion to call on his services in my tenement-house practice and I well recollect how he put at naught all our aseptic precautions of the present day. The old bistoury would be brought out and hidden among the bed-clothes, until the opportunity arrived for using it. After it had rendered service, if a basin of water were not at hand, he would manage, with a little saliva and the aid of the patient's blanket, to cleanse it sufficiently for use on the next occasion. The doctor lived to an advanced age, but for several years before his death he was greatly incapacitated both in mind and body. A short time before his death, however, it became known among the friends of the family that a great change had taken place in his mental condition which seemed to have recovered its normal strength. He took the greatest interest in the illness of an inmate of his house, suffering with typhoid fever in which the diarrhœa was the most marked symptom. As Dr. Stevens had been so distinguished a physician in his day the family were well pleased at his interest in the case, and particularly so when he proceeded to prepare some medicine for the patient. The story current at the time, and never contradicted, was that after two doses had been administered the family discovered that the doctor had prescribed about an ounce of Spaulding's Liquid Glue, then just being introduced for household use. The old gentleman was correct from his standpoint, that if he could glue up the bowels the diarrhœa would cease. He was not allowed to prescribe again, however, but as he died shortly thereafter, almost the last act of his mind was connected with the practice of his profession of which he had been so bright an ornament.

Dr. John W. Francis was the most remarkable man in the Consulting Board. While prominent in his profession, he was more noted, with the world at large, for his literary attainments. He prided himself also



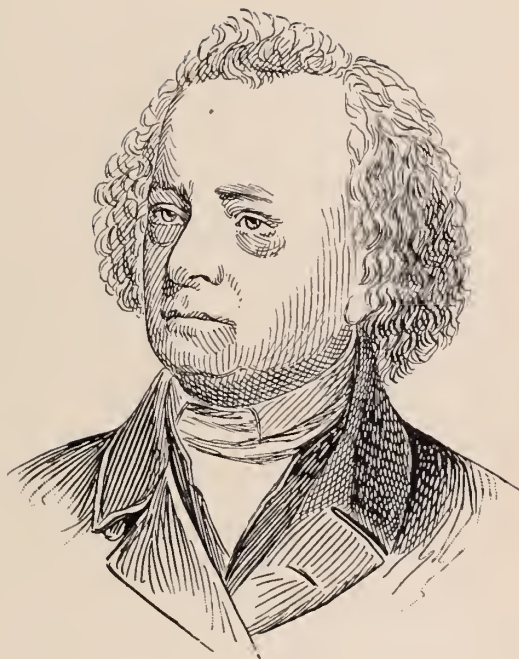
upon his resemblance to Benjamin Franklin. His "Old New York" will always be a most valuable book of reference, as his recollection of persons and events connected with the history of the city during the first half of the century was indeed marvellous. His home, No. 1 Bond street, was the house generally first sought for by any distinguished stranger. The doctor was always selected as the man to be depended upon to preside at a public meeting or to take part in the advance of any new undertaking. Hence his connection with the Woman's Hospital, to which he rendered good service and was a true friend to the hour of his death. I am free to say that I was never much impressed with his professional attainments, but he was always kindly, especially to young men, and after he had his noon-day toddy he was most genial. He belonged to the old school, of which in many respects Dr. Pangloss in the "Heir at Law" was not so much of a caricature. He affected a certain pomposity of manner with a gruff voice and was a firm believer in the efficacy of the heavy gold-headed cane as a supporter of professional dignity. Moreover, he was an equally firm believer in what I once heard a darky term "sarching medicines." He had lived in New York at a time when the people, if not primitive, were at least more simple in their tastes and habits and generally more robust as patients than at the present day. So he often bled heroically, and the administration of a good dose of calomel and jalap was his delight. He was wise enough to realize that no few of the trials of man have an origin in his digestive apparatus, so he never went unprepared. Mrs. Francis, who looked well after her husband's interests, was generally at the front door to receive any seeker after his services. As the doctor was getting ready to respond to any summons, Mrs. Francis would call to Mary Ann to "get the doctor's hat, his cane, and the box of triplex pills."

In those days many of the physicians still dispensed their own medicines, and, by the way, I would suggest that in the interest of the profession I believe it would be an advantage to return to the old custom.

During one summer when Dr. Sims was absent at Newport and I was left in full charge of the hospital, a woman happened to be brought in one day by a policeman, who had picked her up in the street, suffering from diarrhoea. She was too ill and feeble to be transferred to a general hospital and, as she spoke neither English, French, nor German, it was impossible to obtain any history of her case. I soon discovered that she had not an ordinary diarrhoea and realized that the less medicine she received the better. So I set about carefully feeding her and hoped, with good nursing and stimulants, to get her well. Mrs. Mason, one of the Managers, was on the Visiting Committee at that time and came

to me protesting that I was too young a man to assume the responsibility of treating such a case; as Dr. Sims was absent I must have a consultation. I offered no objection and as Mrs. Mason recalled passing Dr. Francis in his gig, she set out to bring him from his home after his one-o'clock dinner. On the doctor's arrival I undertook to give him as clear a statement as I could, but I soon saw that his mind was on some other subject and proposed that we should see the patient. Upon seeing her he turned and said: "Doctor, have you bled her?" I replied: "Certainly not, as she has needed stimulants and was almost pulseless at her admission." Has she had any calomel, doctor?" was the next inquiry. My reply was that I had only given her a small dose of castor oil. That such an opportunity should have been lost was too much for him and, raising his eyes to heaven in protest and with his arms extended, he exclaimed: "Then God be with her!" and left the house. As I let him out the market-boy came in with a basket of ripe peaches and, as I had lost my lunch by waiting for Dr. Francis, I helped myself to some. While passing the bed of the sick woman, she seized the peach I was eating and devoured it. I have always been a great believer in the promptings of Nature, so I determined to let this woman have something to her taste even if some risk were incurred. The boy was called and I picked out five or six of the ripest peaches and gave them to her. On my return an hour later the woman was sleeping quietly, and from that time her convalescence was rapid and uneventful. I learned, subsequently, that she was a Swede and had just landed after a voyage of several months across the Atlantic in a sailing vessel. As I discovered from the condition of her gums that she was scorbutic, the effect of the peaches in checking the diarrhoea was explained. A few days later I met Mrs. Mason, who expressed great satisfaction at the improvement in the Swedish woman's condition and remarked: "Now you see the importance of having older counsel and that of an experienced man, for that woman has been improving every moment since Dr. Francis saw her." I did not attempt to undeceive her, and to the day of her death she labored on all occasions, as a duty, to obtain for her friends the advantage of older counsel.

I can recall but a single occasion on which Dr. Francis seemed to have lost his temper, and then it was sadly out of joint. He had missed his accustomed toddy at noon and had, in addition, just learned a disagreeable piece of news. This was to the effect that one of his best patients had been delivered, when he had not even suspected pregnancy, and, he being away from home when sent for, that some one in the neighborhood had gotten the case. He came into my office, as he often



DR. FRANCIS.

did when I was not at the hospital, and his first exclamation was: "Damn these hoop-skirts! Young man," he said, "there was a time, when I went to church, that I could look around me and form some idea of what my income might be during the year. But now, since the invention of these damned hoop-skirts, I can no longer judge of the condition of the women. I am away from home when wanted, and some young whipper-snapper is called in and gets the case." The situation was a clear one to him of personal grievance.

I used to think he was a grand old fraud, for he would come up and say: "My boy, I have no time to read now; is there anything new in the medical line?" I was a close reader myself at that time and might tell him of something I had recently read in one of the journals. For a while it would arouse my indignation to overhear the doctor shortly thereafter detailing the information I had given him with a most learned air and almost in my own words to some one of his own age who listened in wondering admiration. But withal I had a very warm spot in my heart for the old doctor.

Of Dr. Edward Delafield I knew nothing in connection with the hospital. He was a very popular man, had a large practice, and in later life devoted a great portion of his time to the treatment of the diseases of women. I know of but one feature of his practice, and that one was to make nearly all of his female patients ride on horse-back. He seldom took part in discussions at medical meetings, and his experience was lost with his death, for I am not aware that he ever published anything of special value. For some cause unknown to me he was never a friend of Dr. Sims, and possibly for the same reason he seemed to take no interest in the Woman's Hospital.

Dr. Horace Green was a quiet and mild-mannered man, who had many friends in the profession. He enjoyed for a time quite a reputation for the treatment of pulmonary diseases by direct application to the bronchial tubes. He certainly acquired great dexterity in introducing a probang-sponge into either bronchus at will. His chief remedy was nitrate of silver in solution of different strengths. From the damage done my throat in early life by his hand I gained a valuable experience and an aversion to the constant use of nitrate of silver as an application to mucous membranes in any part of the body. Dr. Green had a gentleman under his care in this city who was well-known in society. One day while passing the probang into the bronchial tubes rupture took place somewhere, allowing air to enter the connective tissue. Emphysema supervened, the man became enormously distended about the head and neck and died a few days thereafter. It was a coroner's case and

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the community was thrown into a great state of excitement in consequence. It became a question as to how far the cause of death might have been due to the man's habits, which were not good. Dr. Green was fully exonerated, but his health seemed to have given way under the strain and within a short time his own death occurred.

My earliest recollection of Dr. Valentine Mott was in connection with the removal of my tonsils, about 1837, at my uncle's house in Broome street, then a fashionable neighborhood but yet rather far up-town. The doctor was always remarkably neat in the appearance of his linen and in later life was very particular about his dress. But when I first saw him he wore the Quaker costume, which made an impression upon my youthful mind. Dr. Mott had an European reputation as a surgeon, and he was certainly a very brilliant and dexterous operator. His office practice was always a large one, and when he moved up-town to Depau row, in Bleecker street, it was often impossible for a late-comer to find standing space in his reception-rooms. His office-fee was, I believe, one dollar, and he kept together his office work until within a short time before his death. Dr. Mott is almost the only instance I know of in the profession, where any medical man occupying the social position which he did, has succeeded in leaving to his heirs a large competency acquired, as I believe his was, entirely from his professional work. As you advance in life you will find that the more successful you become, the greater become the demands upon your purse from all quarters, a tax you must pay for your prominence.

I will now briefly refer to one you all knew and honored, Margaret Brennan, the nurse. She was a most remarkable woman, and one who, I believe, contributed more in her way, by her tact and good sense, to the success of the hospital, than any other individual ever connected with it. She could neither read nor write, a want which very few people recognized in her, and yet in over thirty-four years of service she never was known to have made a mistake or to have forgotten an order. Much that has now passed into our common stock of knowledge in the detailed care of patients, while under treatment and after plastic operations, particularly in the care of cases of vesico-vaginal fistula, we owe to the observation and judgment of Margaret Brennan, who was the pioneer nurse in this specialty. Her great tact was shown in attending strictly to her own business and in seeming to know nothing of the business of others around her. She was always cheerful and exerted a most beneficent influence upon the patients, in keeping them encouraged and contented with what was being done for their relief. Without ever committing herself she impressed each



DR. HORACE GREEN.

patient with the conviction that the surgeon in charge of her especial case was the most skilful. She certainly had her favorites, but in her loyalty to the Institution she never let those who were not so see any indication of her preference. Her whole life was moulded by an earnest desire faithfully to discharge her duties, and she discharged them through the love of God. Few about her ever realized what the incentive was which actuated her to spend a life of unselfishness, which was devoted, almost to the last, in serving God through her care for others. She was strong in the belief that she had been sent into this world for a special purpose, and she was firmly convinced that her reward was to be in proportion to the manner in which she availed herself for good of the opportunities given her. No one knew her so well as I did, during so many years and often under the most trying circumstances, and I am sincere in my belief that her reward was great after death for so well-spent a life.

After a continuous service of over thirty-seven years, I may justly claim that fate had decreed that my name must be associated with the progress of the Woman's Hospital. In the past I have been most indifferent as to the credit due me, but as my services draw the nearer to a close, I am the more impressed with the importance of placing on record some statement of my work. Especially does this seem just to me, since even those who are to-day in charge of the management of the hospital have but a slight appreciation of my efforts in the past for its success.

If I know myself, I am the last person who would lessen in the slightest degree the credit due to Dr. Sims, and yet in all truth and in justice to myself I must state that he has received more than he would ever have been willing to have had claimed for him. In the past, there have been those who have credited Dr. Sims not only with the conception of the hospital but also for its full growth. I have been made to appear as though I had been only the shadow, and that I was, in addition, indebted to him for my knowledge in the specialty. Dr. Sims' name must be for all time, and justly, identified with the founding of the Woman's Hospital Association; I am willing that he should have full credit for everything done at the hospital while he was at the head of the institution, and even up to the summer of 1862, though this includes over eight months during which he was absent abroad. I grant all this, notwithstanding the fact that it can easily be proved that I did, throughout our association, a large proportion, if not the greater part, of all the work, I being the younger man with more time to give to it.

It is for the older members of the profession, and especially those

who have served on the Consulting Board, to verify my statement that the Woman's Hospital Association was not in a most prosperous condition when Dr. Sims left it and went abroad to live. And I will say further, that some of the most prominent men in the profession, of whom a number are now dead, such as Drs. Willard Parker, Buck, Post, Cheeseman, Van Buren, Delafield, Sabine, and others, were open in their hostility and were prejudiced against Dr. Sims, I have always felt unjustly so, as far at least as I ever had any means of knowing, and were opposed to the Hospital at that time in consequence. If Dr. Sims had remained in New York, his reputation in 1862 was not sufficient to have made the Hospital eventually a success, and it mattered not so much who had charge of it as that a change had to be made in order to overcome the existing opposition. Dr. Sims was widely known at the South, and it was from this source that he received the most profitable portion of his practice. At the breaking out of the war, partly because his business had become less profitable, he was obliged to go to Europe and it was while he was abroad that he made his world-known reputation. On his return to this country years after as a successful man, many seemed to have forgotten their former relation to him and became most friendly in recognition of his success, thus showing a very common trait in human nature.

Between the spring of 1855 and September, 1862, my relations with him were as close as those between a father and his favorite son, and I shall ever keep green the memory of our intercourse at this time. I repeat that when I became first connected with the Hospital I had received a thorough hospital training. I had thus obtained a practical knowledge of my profession and had moreover held, for three years and more, the post of Visiting Physician to a large general hospital.

The first intention in opening a Woman's Hospital was to devote it to the cure of vesico-vaginal fistula by the use of an operation, of which Dr. Sims had then so far perfected the general principles that no improvement has been made upon his method to this day. The treatment of the diseases of women, however, was an after-thought, as it were, and when we both entered upon this field I possessed undoubtedly as accurate a knowledge as did Dr. Sims of what little was then known.

But he was a most skilful operator, and although beginning in an entirely new field, he never seemed to be at a loss; so great indeed was his ingenuity that he seldom did for the same indication any two operations alike. But from the beginning Dr. Sims drew his own deductions and I mine; they were seldom the same or even made from the same standpoint. If I operated or treated a case for him I followed out



MARGARET BRENNAN, THE NURSE, HOLDING THE SIMS SPECULUM.
1857.

his views, but otherwise I followed my own judgment. I doubtless profited by witnessing his ingenious methods of operating and certainly gained more thereby than he did himself, for I kept accurate records of the cases with the object of studying the results of differing operations and had many of these patients under observation for years.

I received no other advantage, however, beyond the opportunity for observation, for during my entire association with Dr. Sims, I never received from him the slightest explanation or reason for anything he did. He was not a teacher and operated naturally with such rapidity that very few, unless they were familiar with his methods, were able to receive much benefit from witnessing his operations.

I was at times almost in despair, after I became Surgeon-in-Chief, on account of the unfriendly feeling of certain influential medical men towards the Hospital, but I began at once to write and to teach, gave two clinics a week, and demonstrated each step fully upon the black-board. During the ten years that I held the Surgeonship-in-chief, my clinics were crowded by physicians from every part of the country. I claim thus to have popularized the Woman's Hospital and the practice of gynæcology itself. Seldom has it happened, I believe, that the teaching of any one individual has become so widespread in its consequences, that even the source is unknown. I labored to teach the general practitioner how to do the least harm and the most good, as I hoped, for the relief of suffering woman. But I may have erred in judgment and I may have overdone the teaching, since the criticism of Dr. John Scott of San Francisco, whom some of you knew, was to the effect that I "would ruin the specialty by making every physician believe that he was a natural-born gynæcologist," and when my last work was published, he reiterated his opinion that I had succeeded in my efforts. I certainly succeeded at length in gaining the good will, I believe, of nearly all those who were in opposition to this movement, and so much so that the greater portion, at my request, became connected with the institution as members of the Consulting Board. The Hospital became so popular that Mr. Apollos R. Wetmore, the Vice-President of the then recently chartered corporation of the Woman's Hospital in the State of New York, was able to raise within a very short period sufficient funds to build the pavilion now bearing his name. The Woman's Hospital Association under a Board of Lady Managers then ceased to exist as a corporation, but its members became afterward a part of the organization of the Woman's Hospital in the State of New York.

So the facts of the case are, as regards the establishment of the

present Woman's Hospital, that the money was collected by Mr. Wetmore, towards which a large number of my friends contributed, the building was erected under my supervision, the Hospital was then organized by myself and was in perfect running order for several years under my sole charge before Dr. Sims returned to this country, and consequently he had nothing whatever to do with it until it had become as fully established as it is to-day.

At an interview shortly after his return I offered to resign in his favor or to divide the service with him, as a recognition on my part of our former association. He declined to accept either proposition, because he then felt compelled to devote his whole time to building up again a practice. But in the presence of others he paid me the compliment of saying that the Hospital had then reached, under my care, a degree of success which he had never deemed possible under any circumstances. At my special request the position was made for him and he was appointed Senior Consulting Surgeon and through my influence and that of my friends he was elected a member of the Board of Governors. I do not care to enter into the merits of our estrangement afterwards. He lived long enough to have a return of his old kindly feeling for me and to realize the false position in which he had been placed by others.

My feelings prompt me before closing to note the services of my old friend, Mr. James W. Beekman, who for so many years and with such devotion filled the position of President of the Woman's Hospital in the State of New York, and also to refer to other friends among the Governors and among the Board of Lady Supervisors, but I would be obliged at once to enter upon too extended a field. The history of the Woman's Hospital must be written by another pen, and my task, therefore, ends with the end of the Woman's Hospital Association as an organization.

[I was requested by the editor of the JOURNAL to make some addition to my address on "The Founders of the Woman's Hospital," which he had decided to reprint. So far as my knowledge of the "Founders" extended the subject was exhausted in writing the article, but in connection with the subsequent history of the hospital and that bearing upon the treatment of vesico-vaginal fistula, I have added some interesting details.]

The Woman's Hospital, as has been shown, owed its origin to renting temporarily a house for the purpose of demonstrating Dr. Sims' method of closing vesico-vaginal fistula. At that time this injury was

so common a one and so little had been accomplished for the relief of the most loathsome condition to which a woman can be subjected, with the single exception of malignant disease, that the necessity for a special hospital was generally accepted.

It was many years after the Woman's Hospital had been established before the needed accommodation could be furnished in turn for the treatment of such cases, and they were received from all parts of the world.

At a meeting of the American Gynæcological Society in Philadelphia, 1878, I presented a paper on "The Necessity for Early Delivery, as Demonstrated by the Analysis of One Hundred and Sixty-one Cases of Vesico-vaginal Fistula." This number did not represent by any means my full experience, as at that time I had already had charge of about four hundred cases. A number of the case-books had been lost in making three moves, previous to occupying the present building, and it was only in the smaller number that the histories had been preserved and perfected in all details.

From this material I was enabled to announce the fact that not a single case of injury had resulted from instrumental delivery, but all had been the direct result of delay in delivery. In addition I showed that where ergot had been used to terminate a tedious labor, the history of all such cases exhibited the same result, namely, the existence of a greater degree of injury. This result was proved by the fact that the average length of time such cases remained under treatment was six weeks longer than was necessary to cure the other cases, without reference to the extent of injury.

At the time this paper was presented to the profession the prejudice in practice was so great against what was termed "meddlesome midwifery," that the application of forceps, without the concurrence and aid of an experienced consultant, required the assuming of a greater degree of responsibility than would be necessary to-day for any surgical operation. Ergot was so fearlessly used, that a practitioner would have been deemed wanting in an appreciation of his duty had he neglected to test fully the action of this remedy before applying the forceps.

In the discussion which followed the reading of my paper and in my work on "The Principles and Practice of Gynæcology," which was published shortly after, I held the position that delivery should be brought about as soon as possible, when the head ceased to recede after the pain. I pointed out that the head did not recede just after it had passed from the uterus, but at that time it was so high up in the pelvis that impac-

tion could not occur under any ordinary circumstances, but that there was no exception to the rule after the head had reached the inferior strait.

No one present then realized the remarkable result which was to follow the reading of this paper. As soon as the profession recognized the importance of the facts which had been presented and which could not be controverted, the effect was that both the teaching and practice of obstetrics underwent an entire change throughout the world—the necessity for early delivery was accepted, as soon as impaction took place, and the administration of ergot to force the delivery was abandoned.

In 1878 a large ward was reserved in the Woman's Hospital for the almost exclusive accommodation of the fistula cases and during the period that I remained at the head of the institution one story of the building, containing forty beds, was often not sufficient and I averaged two operations a week.

After publishing in 1868 a special book on this injury, and my work on gynecology ten years later, the profession became more familiar with the operation and fewer cases applied for admission to the hospital. But in less than a year after the profession had changed from the old-established practice, the occurrence of such cases rapidly decreased and up to the present time not a new case had passed under my observation during the past year.

Shortly after this paper was published I met a distinguished gynecologist in London who expressed his surprise that any individual should have had such an experience and bluntly claimed that the fact was evidence of lack of skill and proper knowledge, in this country, of obstetrical practice. As he was about to publish a work he urged that on my return I should give him the full particulars. In my early professional life I spent some years in connection with the Emigrant Refuge Hospital, in the neighborhood of the city of New York, where the immigrants were cared for during a limited time after their arrival. It therefore became almost second nature to establish this fact in connection with every patient. I found that with but few exceptions I could not gain the information I sought from the hospital records. Fortunately I had myself kept the histories of over two hundred cases and from force of habit had recorded everything that was needful. From this material I was able to show that fifty-eight per cent. had been immigrants, who averaged a little less than one month between the date of their arrival in the country and their admission to the Woman's Hospital. The greater portion were from Great Britain, and the poorhouses in the west of Ireland and northern portion of Scotland had sent to this



WOMAN'S HOSPITAL IN THE STATE OF NEW YORK.

country the accumulation of years. Immediately on the arrival of these cases in any of the seaports in the United States they were hurried off to the Woman's Hospital.

I sent to my friend the information in a tabulated form, so as to give every particular feature which could be obtained, but I need scarcely state that the interesting facts I had collected were not published, nor was there ever any reference made to my communication afterwards.

I do not state this circumstance in retaliation, or as a reflection on the profession of Great Britain, for the fact is clearly established that the injury is one of rare occurrence with proper medical attendance and is a frequent one in thinly settled districts, where such cases are left to the efforts of Nature or to the ignorance of some female friend.

It has been estimated that about six hundred cases of vesico- or recto-vaginal fistula have been admitted to the Woman's Hospital. So far as my personal observation has extended I can recall but three cases which were discharged as incurable and it is not improbable that even these cases could be relieved with the present experience. I believe all were cured eventually if the individual had the patience to avail herself of the opportunity presented her.

In my own service this has been strictly true, for I have made it a rule, with increased experience in any particular feature, to have special cases applicable sent for and readmitted. Since I have resorted to the practice of establishing an artificial opening in the bladder, just above the pubis, and one which does not contract, it is possible in every case to gain retentive power, and have the facility for washing out the bladder, when necessary, to guard against the consequences of retained phosphatic urine in the most dependent portion.

If it could be shown that no additional service had been rendered to suffering humanity in the Woman's Hospital since it was established, beyond its record in connection with the cure of all these cases of fistula, and the knowledge gained to guard against the occurrence, the mission of mercy thus accomplished would alone prove a sufficient monument.

At the last meeting of the Board of Managers of the Lady Supervisors, the organization under which the Woman's Hospital was established, and as the last official act of that organization, before it became part of the governing body under the amended charter to the Woman's Hospital in the State of New York, the following action was taken as expressed by the secretary:

March 5, 1872.

DEAR SIR:

At a meeting of the Lady Supervisors of the New York State

Woman's Hospital, held March 2nd, it was moved by Mrs. Morgan and seconded by Mrs. Davis, that

"WHEREAS, a change in the medical organization of the Hospital having been determined upon by the Board of Governors—

"Resolved, that the Lady Supervisors cannot sever their connection with Dr. Emmet as Surgeon-in-Chief without expressing to him their warmest thanks for his faithful and untiring devotion to the Woman's Hospital for so many years. During which he has always been most punctual and attentive in fulfilling the onerous duties devolving necessarily upon his office. And they hope that under the new arrangement of the medical service, their relations in the future may be as pleasant and cordial as they have been in the past."

This preamble and resolution were passed unanimously by the Board and the secretary directed to send a copy and to enter them on the minutes of the Hospital.

Respectfully yours,

MARY JAY EDWARDS,
Secretary, Woman's Hospital.

Dr. Thomas Addis Emmet.

A PLEA FOR THE MORE CORRECT APPLICATION OF THE EMMET METHODS IN PLASTIC SURGERY.*

BY W. D. HAGGARD, JR., M.D., NASHVILLE, TENN.,

Associate Professor of Gynæcology, University of Tennessee; Adjunct Professor of Gynæcological and Abdominal Surgery, University of the South; Fellow of the Southern Surgical and Gynæcological Association; Secretary of the Section on Obstetrics and Diseases of Women, American Medical Association; Member of Alumni Association of the Woman's Hospital in the State of New York, etc.

The brilliant achievements in abdominal surgery have so far outshone the humbler plastic operations, that their perfection has been very much impaired. The apothegm that "whenever anything is as good as it can be, it cannot get better," is particularly applicable to the work of the early school of gynæcologists. It is equally axiomatic that when progress approximates perfection, it ceases to improve, and decadence ensues.

Plastic surgery of the vaginal walls and cervix uteri of the present, is a polyglot of many methods, widely differing in principle, and hopelessly diverging in practice. It is usually the *bête noir* of the practitioner, the unfruitful field of the general surgeon, and the *négligé* work of the gynæcologist. It is not that we love it less, be it said, but that we love major work better. In addition to these obvious reasons for the deplorable lack of excellence in much of this class of work, and to the general apathy in this department of surgery, there are more material and serious impediments to perfected results. A somewhat exaggerated idea of the importance of the perinæal body so-called the lingering belief in its similitude to the key-stone of the arch, in its office of supporting the uterus; the failure to appreciate the rôle of the pelvis fascia in maintaining the integrity of the pelvic floor and its functional relations; and more especially the failure to grasp the results of its injury and the mechanics of production of rectocele together with the exact methods for its correction. - Finally the employment of other suture material than silver wire. Even when these elementary facts and their significance are known theoretically the mechanical difficulties in meeting the anatomical and physiological indications are very considerable. More, perhaps, than in other surgery. It has been said that much of modern surgery tends to dissociate it from the character-

* Read at the Southern Surgical and Gynæcological Association in Memphis, December 6, 1898.

izing manual dexterity from which it derived its name. Yet the substitution of instrumental for manual manœuvres is essentially necessary in the class of operations referred to. Its successful execution requires a special aptitude, nicety of judgment, delicacy of manipulation, and the inherent modeling and coaptation of parts which is signified by the word plastic. In this branch is found one of the highest exemplifications of science wedded to art, because the creative feature, the object to be attained, and the highly artistic means of attaining it, preeminently stamps it as essentially an art.

Plastic surgery received its first impetus from the pioneer work of that great master, Sims, when in 1845 he made the brilliant cures of vesico-vaginal fistula on the patients whose fortitude and high courage entitle them to share something of the gratitude of posterity for participating in those wonderful discoveries that made lacerated woman whole.

It is a unique circumstance in the annals of surgery that the instruments which made the feat possible, and the fundamental principles of his success, have remained unchanged.

It is not so much the tribute of homage to unprecedented genius, as the truth of the great principles he enunciated, and the perfection of his devices. It may be said, then, that the surgery of vesico-vaginal fistula has remained unchanged since the operation for its relief was given to a waiting world by its incomparable originator. It is a subject of regret that more of our art has not become crystallized into such classic perfection.

Trained in this embryo school, under the great Sims himself, possessed of a remarkable sense of adaptation, great patience, untiring energy, and a delicacy of touch rarely seen in man, was Thomas Addis Emmet. He utilized his unparalleled opportunities in extending the application of the methods of Sims in fistula to injuries of the adjacent soft parts.

In 1871 he read the historic paper on "Laceration of the Cervix as a Cause of Disease," which swept away the mythical "ulcer of the womb" from the nosology of disease, subtracted much from the sum of woman's sorrow, and forged the second link in the immutable trio of perfected plastic operations.

It would seem that an operation so accurately described, so universally practised and by so many men, would be more correctly performed. Yet I have seen many operators simply cut out a variable plug in the angles of laceration and sew it up by through-and-through sutures, very much as one would the corners of the mouth. No attempt

was made to remove all the cicatricial and cystogenic tissue or to maintain the conical form of the cervix. In addition to attention to these cardinal points it is extremely essential to preserve the continuity of the cervical canal down to the new external ostium, and in the suturing to avoid the formation of pockets which are caused by leaving irregular recesses unapproximated by the sutures. The denudation is the scientific aspect; the suturing the artistic consideration. The hard cicatricial plugs in the angles and the oft-associated honeycombed condition of the cystic tissue, require careful excision with the sharp-pointed curved scissors, and very often amputation of the cervix. The *raison d'être* of the operation is to remove all abnormal tissue. It may be compared in one sense to a sequestrum of bone and the further analogy of the necessity of complete removal be carried out, as we do in necrotomy. The hard tissue can sometimes be peeled out like a corn in one piece. The finger can best tell when all diseased tissue is removed. A proper appreciation of this fact causes one to regard instruments made to bite out an arbitrary piece of tissue as a biscuit-cutter does, as extremely crude and in discord with the harmonizing indications and operative corollary.

The sutures when introduced to close the excavations are arranged like the ribs of a palm-leaf fan, the undenuded strip which is to constitute the new canal forming the rallying point and each suture making a lesser angle with it until the last one on each side is almost parallel with the margin of the cervical canal.

The difficulty of passing the needle underneath the deepest portion of the excavation and drawing out the point of the needle when it presents, is overcome by pulling up the bottom of the cervical stump so that the needle may be shoved along on a plane and the point elevated. Counter-pressure made with a tenaculum will facilitate the passage of this needle without breaking and tedious delay.

When the site of the proposed canal on the everted anterior and posterior lips are felt to be free of hard tissue, then the original operation of Emmet, bilateral trachelorrhaphy herein described, will suffice, no matter how deep the laceration. However, the majority of cases seen at the present time requiring operation, are the ones with large hypertrophied cervixes with undurated tissue containing numerous cystic follicles. The rule "to remove all morbid tissue" when applied in these cases, necessitates an amputation of the cervix. It finds its analogy in the indication for removal of hypertrophied indurated tonsils, the relic of recurring inflammation. We also know that if we do not remove all dense cicatricial tissue in the cervix that it will be

only a resection of the disease and the vaginal flaps will be brought over morbid tissue as a prepuce. Amputation can be substituted for trachelorrhaphy at any moment of the operation. The excision should be conoidal. The sutures so arranged as to pass through the anterior lip and out through the canal. A sister suture through the posterior lip unites mucosa of cervical canal to vaginal mucosa. Apposition sutures through the stumps draw the vaginal flaps snugly over the cervical stump like the cover on a ball.

Emmet's operation on the posterior vaginal wall was of more gradual evolution, but the later operation devised in 1876 does not differ materially from the old trefoil denudation. It must be asserted that Emmet was the first operator to include the rectocele, or indeed, any portion of the posterior wall of the vagina in the operation for laceration of the perinæum so-called. Then the multifarious operations devised for repairing the pelvic floor, or vaginal outlet, which includes the posterior wall of the vagina, are but modifications of his operation. The misconception of the operation for laceration of the perinæum, so-called, is due to two causes: (1) misconception relative to the exact nature and pathology of the injury. (2) The almost insurmountable difficulty in depicting the operation by diagrams, and the impotence of word-description in giving precise directions for its exact performance. The first of these hindrances I consider the gravest, and attributable to the popular idea of the perineal body which Emmet describes as a body that doesn't exist. The essential lesion in injuries to the pelvic floor is a tear of the pelvic fascia which runs along the lateral sulci of the vagina to which it is attached. The tear occurs where it is reflected upon the front of the perinæal muscles, of which it forms the sheath and which it binds together. This condition exists in the tears, indicated by the transverse tears, rectocele, and relaxed vaginal outlet commonly seen in the injury incorrectly designated Laceration of the Perinæum, but more accurately termed Laceration of the Posterior Vaginal Wall. The destruction of the integrity of the pelvic fascia is the sole pathology. The sense of bearing down characteristic of this condition is caused by the congestion of the blood-vessels consequent upon the lack of support, through the above-mentioned injury to the pelvic fascia, which in its support of the blood-vessels has been likened to "the trellis supporting the grape-vine." The seeming destruction of the perinæal body is really only the retraction of the pelvic fascia which from the loss of support from its sheath, the fascia, is pulled apart by the transversus perineû muscles, like two leaflets of a window curtain separated at the bottom while they remain attached above. The two-fold function of this

muscle, to close the vulval cleft during defecation and to assist the dilatation of the sphincter ani, being lost, each stool thus finds an imperfectly dilated sphincter, an unclosed vaginal orifice, a weakened recto-vaginal septum, a convex rectal curve all of which predispose to rectocele. The constant eversion of this rectocele by defecation, under the circumstances above enumerated, pulls down on the cervical attachment of the posterior vaginal wall, predisposing to retro-displacement, which is the first step toward descensus. That the destruction of the pelvic fascia is the essential cause of rectocele which in turn produces consecutive prolapsus, is proven by the fact that women who have true laceration of the perinæum, *i. e.*, complete tear through the sphincter and the recto-vaginal septum, do not have prolapsus. The uterus is not supported by the perinæum as formerly taught but "is swung from above like all other organs in the body." These women do not have the bearing-down found in the class with transverse tears and the laceration of the pelvic fascia. They do not suffer any discomfort whatever except from incontinence. The reason of all this is because in the central, complete tears referred to, the fascia is not or cannot be involved. This is the inevitable logical conclusion.

The mechanics and pathology of the results of injuries to the floor of the pelvis may be summarized by the comprehensive reply of a student whom I asked: "Why doesn't a woman with complete laceration of the perinæum have prolapsus?" He replied ingeniously: "Because she has no rectocele." "Why has she no rectocele?" "Because the pelvic fascia is not torn."

The converse of these propositions is of course true, and these brief statements comprise much of the unwritten mechanics of many displacements as well as the essential pathology of laceration of the pelvic floor.

The rational correction of this complex condition, then, would be not to sew the labia together, which is the popular procedure in one class of operations, nor to denude an arbitrary area of fanciful shape on the rectocele and bring the edges of the raw patch together, after the fashion of another class. It would rather be in the language of Emmet "to catch up the retracted pelvic fascia at such a point and in such a manner as to 'take in the slack' as it were of the fascia throughout the pelvis. By this procedure the displaced posterior vaginal wall is certainly lifted up and drawn forward in contact with the vesico-vaginal septum. As the steps of the operation advance the displaced anus is lifted upward and forward, the everted tissues at the vaginal outlet

gradually rolled in and the separated levator ani muscle brought together."

I shall not attempt a detailed description of the technique, because I realize the futility of conveying a composite idea of the method, which, to be properly understood, must be seen, preferably at the hands of the venerable Emmet himself. I am not unmindful that this good fortune has been enjoyed by many present. I will simply accentuate a few of the essential features.

Based upon the conception of the injury outlined in the foregoing, the first and important step is to determine that point on the rectocele which when drawn down by a tenaculum will present a triangular, trowel-shaped area marked laterally by two folds which lead up to fixed points in the lateral sulci which mark the limit of retraction of the fascia. If this is not determined with precision it is obvious that any attempt at reuniting the sundered and retracted fascia, thereby restoring the equilibrium of the circulation in the pelvis and drawing together the separated levator muscles, will fail and the whole object of the operation be defeated.

This tongue-shaped portion of the posterior wall of the vagina when drawn down will constitute the new posterior vaginal wall because the denudation will include that part of the rectocele marked laterally by the highest caruncle and below by the junction of mucous membrane and skin, extending above into each lateral sulci to the triangular fixed points before referred to as indicating the extent of retraction of the fascia.

The denuded area, diagrammatically speaking, would correspond to the space between the straight lateral and oblique middle legs of the letter M, the ends of the lateral legs being connected by an exaggerated semicircle. The space above and between the two oblique middle bars of the letter M would correspond to the undenuded tongue-shaped portion of the rectocele, the angle formed by the junction of the outer and middle legs would correspond to the fixed point and the outer bars to the limit of retraction of the pelvic fascia as previously determined. The semicircle connecting the lower ends of the letter would designate the junction of skin and mucous membrane.

The sutures that unite the two lateral triangles, and thus catch up the retracted fascia, are introduced in the shape of an inverted triangle, the basic points corresponding to the points of insertion and final exit at the edges of the denudation and the apical point being in the center of the denuded triangle at the point of first exit and re-entrance of the suture, where it changes direction. The sutures underneath the semi-

circular denudation pass transversely across the area, the first or "crown stitch" traversing the top of the undenuded triangle. When the two sets of lateral sulci sutures are shouldered and twisted they not only approximate the edges of the lateral triangles, but at the same time draw up and in the underlying tissues previously everted and displaced. The transverse sutures which draw together the levatores when tightened, draw the circular edges of the denudation into a linear line of approximation. It will be noticed that this entire operation is on the posterior vaginal wall, and hence Emmet's name for it. It has not involved the skin or labia, and the sutures are all *inside*. So perfect and secure is this approximation that I have frequently seen Emmet turn the patient on her side and for the purpose of demonstration introduce a Sims speculum and retract the perinæum without the slightest disturbance to the newly contracted vaginal wall and in no wise marring the perfection of the result.

The operation for complete laceration through the sphincter is more amenable to pictorial description, and I think is more generally understood. It is the simplest and most beautiful of all the operations for this injury. In its simplicity consists its beauty, and as it is solely instituted for the restoration of the sundered ends and broken circumference of that muscle, no mutilating and arbitrary flap-splitting is done, but the ends infallibly lying under the two dimples are lifted up, laid bare with scissors and united by a suture going behind the sphincter end and drawing the straightened and retracted sphincter into a circle again.

The margins of the recto-vaginal septum are freshened and approximated. It has always been the custom of Dr. Emmet to introduce the cleft sutures before the ones to bring the sphincter together. To show the remarkable versatility of this master plastic mechanic on a certain occasion when he had some of the most distinguished men of the two continents at his clinic, he deliberately reversed the plan of a lifetime and introduced the sphincter suture first. He advised those of us who were assisting to him to adopt that practice. I do not know that he has ever publicly recommended that modification, but I take the liberty of repeating his suggestion.

Of the operation on the anterior wall, I will not speak at this time; nor of his inimitable work in making an artificial urethra. This is an acme of adroitness that we cannot hope to duplicate, and fortunately the occasion for its employment is exceedingly infrequent.

I cannot refrain from decrying the too general practice of substituting other suture material for silver wire in the cervix and vaginal walls

This innovation in plastic work is due to the invasion of gynæcological territory by general surgeons, who are just emerging from the use of silk as a universal suture material, and adopting silkworm gut for use in all localities where it can be removed. The general practitioner also essays plastic work, bringing to bear the results of his restricted experience in sewing up skin and scalp wounds.

The newer school of gynæcologists who are unacquainted with some of the older and good methods are applying catgut sutures to the cervix to avoid the trouble of removing them and also trusting them in the most awkwardly situated region of the body to protect from infection. The non-use of silver wire is perhaps as much responsible for failure in plastic work as nearly any other factor. It is the only suture that can be precisely controlled in the degree of tightness and, indeed, it can, if accurately bent or "shouldered" where it crosses the line of proposed approximation, be made to constrict the parts in the most delicately adjusted apposition, neither too tight nor too loose. The physiologic peculiarities of the erectile tissue of the genitalia, that of rapid engorgement and depletion, require an unyielding suture material, and one that will permit of the resulting involution as repair proceeds. Moreover, silver wire is easily and surely rendered aseptic and, indeed, is supposed to have the property of forming an antiseptic salt with the fluids in the tissues in which it is embedded. It can remain indefinitely and the longer it remains within surgical limits the better the results. Three weeks is the orthodox time for the cervix. The application of silver sutures requires some practice and much patience, and takes a little more time, but the last element is not of much moment in minor work, with good kidneys and expert anæsthesia, which is the only sort that should ever be permitted, as I recently had sad occasion to realize.

In every branch of art there is a troop of imitators who follow so closely the hall-marks of the original that the specious can scarcely be distinguished from the genuine. So closely are mannerisms copied in literature, art, sculpture, and the drama, that the imitators create a distinctive school. This accuracy of duplication is rendered possible by the faithful and scrutinizing study of the original pattern.

The unlimited opportunities for the study of models in the arts are obviously impracticable in plastic surgery. We cannot all have the privilege of seeing the peerless Emmet, although a distinguished Fellow of this Association says that one who aspires to do such work ought to. I wouldn't presume to say that one must see him or his followers to do good work. I regret that many of his pupils do not or cannot copy his

methods, and I don't hesitate to say that those of us who do conscientiously strive to imitate him, fall very short in our poor efforts, but we have at least the satisfaction of having a correct conception of the highest ideals in surgery.

A PRELIMINARY REPORT UPON THE USE OF THE DOYEN-THUMIN CRUSHER OR CLAMP; WITH A NEW INSTRUMENT FOR EXTENDING ITS WORK UPON THE BROAD LIGAMENTS AND OTHER SOFT STRUCTURES.*

BY HENRY P. NEWMAN, A.M., M.D., CHICAGO, ILL.

The object of the Doyen method of hysterectomy, for which latter procedure it was primarily used, was to do away with all suture material or sutures, and likewise the retention clamp, the author claiming facility of use, promptness of execution, and perfect security from after-hæmorrhage. The clinical experience of Doyen, as well as of Landau, would seem to verify these claims.

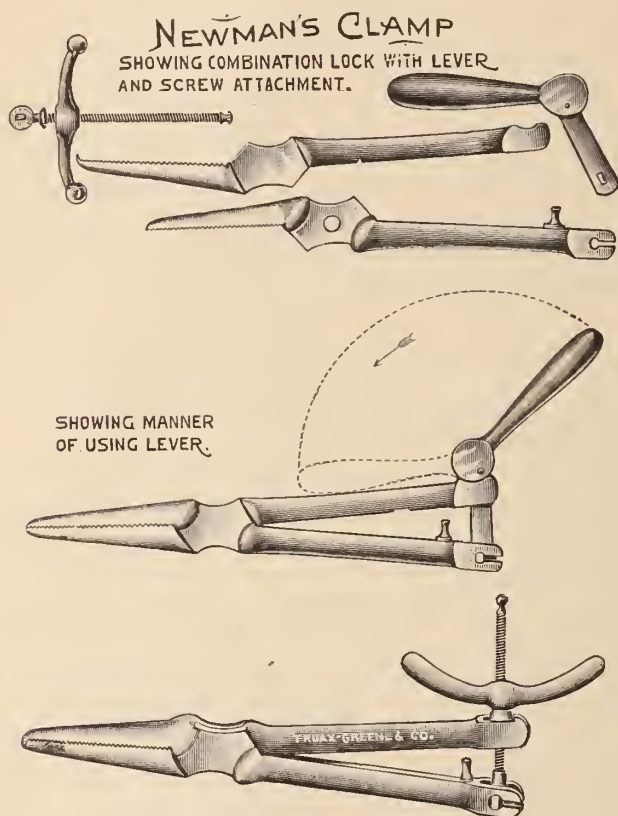
The instrument used in the appended cases was a Thumin modification of the original Doyen crusher or clamp. It has a large bite with serrated edges and a central groove. After this application to the parts, the powerful leverage obtained through the handles by the cross-bar and screw enable one to compress or crush the tissues into an almost ribbon-like thinness. The groove in the center of the bite allows of the formation of a blood-clot or thrombus in the individual vessels compressed, in addition to the natural formed thrombus, as in ligation, behind the constricted or crushed vessels. The crushing on the outside of the groove, or on the distal end of the excised vessel, may be compared to a second or double ligature.

As the instrument is only applied for about two minutes, it is claimed that much of the vitality of the crushed tissue is restored; and the consequent sloughing of the retention-clamp method or ligatures is done away with, likewise the graulating surface often so

* Read before the Chicago Gynæcological Society, February 17, 1899.

prejudicial to pelvic and abdominal work. The verification of the latter proposition I regard of great importance, and have instituted a series of experiments upon the lower animals with this purpose in view:

1. To observe the immediate condition resulting from clamping or crushing soft tissues within and without closed cavities.



Showing screw attachment in position.

2. The subsequent conditions of the stump or tissue, including the nutritive and reparative process that takes places.

It will be seen by the following cases that I have purposed extending its use to any and all tissues, intra and extra-peritonæal, wherever its applicability seems to warrant. For this purpose I have devised a new or modified instrument, with longer blades and narrower jaws, a removable lock, for not only its antiseptic advantages, but for the separate

introduction of its blades, when necessary. It also has a slight projection upon the end of one blade, preventing the broad ligament, large pedicle, or any tissue from projecting beyond the bite of the blades.

A new or modified Thumin lever has been added to the instrument as a separate attachment.

A combination mortise lock allows of an interchange at will of the lever, in applying the compression force, to that of the cross-bar and screw.

While the cross-bar and screw will be found most desirable for general use, the lever has great power of compression and can be applied with a single motion or movement of the hand.

This new or modified lever, not only has the interchangeable lock in common with that of the cross-bar and screw referred to above, but is simple in construction and adaptation and allows of much wider separation of the blades during their application.

The Thumin lever requires a partial closure of the blades and necessarily previous engagement of the pedicle or tissue to be clamped before adjusting the lock.

This obstacle is overcome by the Newman instrument as will be seen by the accompanying cuts.

Case I.—Mrs. E., aged twenty, American. Family history good. Menstrual history: Menstruated first at the age of thirteen; never regular. Bachache, and pain over right ovarian region, which is increased at menstrual period.

Married history: Married one and a half years. Menses have been more painful, and backache and pain in the right ovarian region more severe since marriage.

Examination showed the uterus to be infantile, cervix small, elongated, and eroded. Ovaries large and prolapsed; this enlargement and prolapse more marked in right ovary.

Operation January 21, 1899. Curettement; tracheloplasty; cœliotomy; right ovary found low in cul-de-sac of twice the normal size, with cystic degeneration, tube closed, enlarged, and thickened. Adhesions broken up and ovary and tube removed by means of the crusher or clamp. Left ovary slightly enlarged and cystic; tube closed, and many small cysts around the extremity. Section of cystic ovary removed; tube opened and ampulla everted and held by fine catgut, cysts tied off with catgut.

Recovery good. No evidences of hæmorrhage from ovarian stump.

Case II.—Mrs. D., aged sixty-two. German. History of previous illness negative. Family history good, except that mother died of tuber-

culosis. Menstruated first at fifteen: regular until the age of fifty-three, when menses ceased abruptly. No history of irregularity, excessive flow or pain.

Married history: Married at the age of twenty; husband living; nine children, whose ages range from forty to twenty. History of present disease: Seven years ago she began to have pain in the back at intervals. No other symptoms until one year ago, in January, when she began to have discharge and hæmorrhage. Hæmorrhage irregular, at times a show of blood, then absent, then a flow for a considerable time, two, three, four, or five weeks. During the past year patient has become anæmic, and has lost not a little flesh and strength. Examination revealed tumor (enlarged uterus) in pelvis, extending two and a half inches above pubic-bone, hard and nodular. Diagnosis: Carcinoma of uterus, and probable long-standing multiple fibroids.

Operation.—January 20, 1899. The vaginal route was chosen, although the vagina was somewhat small, and the uterus thrice its normal size. The outlet was enlarged by bilateral incisions. Incisions made anterior and posterior to cervix into peritonæal cavity: left uterine artery severed and tied. Effort made to pull uterus down, but impossible on account of size, friability, and adhesions. Abdomen opened and uterus freed. The clamp or crusher placed upon the broad ligament from above downward, compressed, and left two and a half minutes. Ligament cut on uterine side of clamp; clamp loosened; no oozing. Clamp placed on opposite ligament, and this similarly dealt with. Uterus, now free, was lifted out and abdomen closed. Gauze drainage through the vagina. Recovery. No after hæmorrhage; only slightly sero-sanguinous oozing from the vagina.

Case III.—Mrs. F., aged twenty-four, English. Previous history: Patient well, except a monthly hæmorrhage from nose each time, lasting about twenty-four hours. This phenomenon first appeared when patient was six years of age, and lasted until she was twelve. Family history: Mother died of child-birth. Menstrual history: Menses first appeared in thirteenth year of patient's life, and continued regularly and without pain until first pregnancy. Since birth of first child they have been painful. Married history: Married at the age of fifteen years; one child, eight years old; twins, born six and a half years ago, which lived six weeks. Husband died in 1894. History leading to present illness: Patient had laceration of cervix and probable infection with first child. Has not been well since; symptoms increased after twins. Had operation four years ago, at first trachelorrhaphy, and two weeks later a double salpingo-oöphorectomy. Since then pains

in the abdomen have increased rather than diminished. Bowels have been constipated, and bladder irritable.

Examination showed the uterus to be large and tender, and especially tender at the horns of the uterus in the old stumps, consequently a diagnosis of metritis and interstitial salpingitis of the remaining portions of the tubes.

Operation.—January 26, 1899. Vaginal hysterectomy. The usual incision was made around the cervix, and the uterus freed anteriorly and posteriorly. The fundus was then turned forward and pulled downward through the anterior incision. The clamp or crusher placed on the broad ligament from above downward and left the usual length of time; then the opposite ligament was treated in the same manner, which completed the operation. Recovery. Relief of pain has been very marked. No hæmorrhage followed operation. Suppuration was found in both horns of the uterus.

Case IV.—Mrs. S., aged twenty-nine, German-American. History: Cloak-fitter for eight years. On her feet many hours each day; patient large and well developed. Family history good. Menstrual history: Patient first menstruated at the age of fourteen years; regular until about two years ago. Suffered a great deal during first three years of menstrual life, then symptoms became less severe until about seven years ago, since which time they have been growing worse. Patient has always had severe pain over lower half of abdomen during menstrual period, but during the last year this pain has been constant. Patient has also complained of severe pain in chest over cardiac region, without apparent local cause.

Examination revealed stenosis of os uteri, a large uterus, movable mass to the right and above uterus. The mass on right of uterus had undoubtedly been taken for floating kidney, as that diagnosis had been made by Chicago physicians. Operation: Curettement; tracheloplasty; cœliotomy; left ovary found to be size of large hen's egg, cystic, and capsule much thickened, as seen in specimen. Tube and ovarian ligament much thickened and elongated, allowing of considerable movement. Ovary removed by means of the clamp or crusher, leaving tube. Right ovary was found to be the size of a hen's egg, cystic, and degenerated, but to a less degree than left. Cyst of broad ligament the size of turkey's egg, situated above the ovary in such a way that the two gave the characteristic kidney shape. Cyst removed, and also section of this ovary. Recovery: Progressing well; no evidence of hæmorrhage.

Case V.—Mrs. H., aged thirty, American. Previous history: Well until one year ago last Thanksgiving. Family history good. Menstru-

ated first at the age of fifteen; menses regular and painless until one year ago last November. Married history: Married at the age of twenty-one; only child eight years old. Well after birth of child. Present illness: Friday morning, after Thanksgiving of 1897, she began to have headache and pain in the back. Friday night she began to vomit. Saturday morning she had pain in the right inguinal region. The pain and vomiting ceased in a few days, but patient did not leave her bed until the following March. Pain and vomiting with each menstrual period since November, 1897.

Examination revealed laceration of perinæum, laceration of cervix, large prolapsed ovary on left side, prolapsed ovary on the right side. Hard body the size of a hickory-nut in the region of the appendix.

Operation.—January 26, 1899. Curettement, tracheloplasty; perinæorrhaphy; cœliotomy; appendectomy (the appendix having been doubled upon itself and adherent in such a way as to form the hard body in this region); section of right ovary removed, and on left side salpingo-oöphorectomy done with the clamp or crusher.

Recovery: No evidence of hæmorrhage. Patient very much improved in general appearance and symptoms.

Case VI.—Mrs. J., aged fifty-three, Norwegian. Previous history negative. Family history good. Menstrual history: Menstruated first at the age of fourteen years, always regular until last year of menstrual life. Ceased to menstruate at the age of forty-eight years, five years ago. Married history: Married at the age of twenty-one. Has had seven children. Present illness: Abdomen began to enlarge one year ago; had a feeling of pressure in the left ovarian region. Bowels constipated. Four or five months ago the patient began to notice a tumor on the left side. Examination revealed a cystic tumor of the size of a uterus at seven months of pregnancy. Operation February 13, 1899. Removal of the tumor by means of the clamp or crusher for pedicle. Recovery: No evidence of hæmorrhage.

A CLINICAL CONTRIBUTION TO THE TREATMENT OF
MALIGNANT TUMORS OF THE OVARY.*

BY X. O. WERDER, M.D., PITTSBURG, PA.

Through the kind invitation of your very distinguished President I have the great honor to address you to-night. While very appreciative of this undeserved courtesy and honor, I at the same time fully realize its responsibility. When I consider the prominent place the "Transactions" of this Society occupy in the gynæcological literature of the world, and the very high standing of its members, I am greatly embarrassed and keenly feel my inability to present the subject chosen for the occasion in a manner worthy of the high standard set by this Society. I hope, however, that, while my paper may not come up to your expectations, that you will supply any defects and important omissions in your discussion, which, if participated in by such eminent and experienced men as I see present to-night, cannot fail to be highly interesting and instructive.

The subject of the paper, "Malignant Tumors of the Ovary," has not received the attention by abdominal surgeons which its importance demands. Many points in their pathology are still obscure and confusing, and even in the treatment opinions are far from unanimous. This is somewhat surprising when we consider their frequency. Olshausen has found 15 per cent. of all ovarian tumors malignant; Cohn records 16.4 per cent. of malignant tumors in the cases operated on by Schroeder; Fritsch had 18 per cent. in his experience; Leopold 23 per cent., while Kelly's percentage is considerably smaller, only 8 per cent. In 131 ovarian neoplasms removed by me at Mercy Hospital, 20 were malignant, about 15 per cent. To these, however, should be added seven exploratory operations, in which, on account of extensive metastases, radical operation was not attempted, increasing the total to twenty-seven cases, or about 20 per cent.. But even this does not give the full proportion of malignant tumors met in my experience, as a number of cases coming under my observation were beyond any operative treatment. This group includes only undoubted cases of carcinoma and sarcoma of the ovary, in which the diagnosis was confirmed by a careful microscopical examination. The proportion of

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sarcoma, which is a comparatively rare disease, to carcinoma in my experience has been somewhat greater than usually observed by other operators, namely five of the former to fifteen of the latter.

The ordinary papillomatous tumors, or adenopapillomata, which are classed with the malignant tumors by many authorities, prominent among them being Cohn and J. W. Williams, are excluded, because anatomically speaking, at least, they have nothing in common with true carcinoma. Cohn's claim that there is merely a temporary difference between a tumor with beginning papillomatous changes and a papillary carcinoma, and that papilloma represents simply an early stage in the development of carcinomatous degeneration, is by no means an accepted fact. On the contrary, Pfannenstiel, after a very careful and thorough study of the subject, comes to the conclusion that papillary ovarian cysts are benign neoplasms, because their growth is slow, though progressive, with no destructive tendencies; because they do not produce genuine primary metastases; because even in the advanced forms they do not give rise to true cachexia, and because they do not recur after radical removal. He is, further, of the opinion that malignant degeneration is rare, and when a papillary tumor presents malignant changes, they have existed from the start. From a clinical point of view we must admit many points of resemblance between papillomatous tumors and typical carcinoma; in fact, their outward appearances are often so strikingly similar, that for their differentiation the aid of the microscope is required. They are both frequently accompanied by ascites, they are often bilateral, both are liable to become disseminated over extensive peritoneal surfaces in the form of cauliflower excrescences, and both may be accompanied by a degree of malnutrition and emaciation difficult to distinguish from true cachexia. Positive proof of the benign character of the simple adeno-papilloma are the cases observed by all experienced surgeons in which, in spite of numerous metastases found on the intestines and other portions of the peritoneal cavity, the operation was followed by a complete and permanent recovery. Genuine malignant metastases preserve their destructive tendencies even after the removal of the mother tumor.

An examination of Pfannenstiel's statistics shows among forty-three carefully examined cases of papillary tumors twenty adeno-carcinoma, or 46.7 per cent., which would seem to prove that the two conditions are frequently associated together, an inference, however, not borne out by Kelly's experience, who found in twenty-seven cases only two papillary adeno-carcinoma. The fact that papillary adenoma is frequently bilateral, according to some observers in 50 per cent. of the

cases, has influenced some surgeons to remove the second ovary even when perfectly healthy, in order to prevent a recurrence on the other side. In one case in which I removed a papillary cyst on one side, I found in the other ovary a very small cystic growth of the same character of the size of an ordinary marble. As the patient was only twenty-one years old, I tried the complete enucleation of the small cyst with preservation of the ovary. The attempt was perfectly successful; the patient, now six months after operation, remains perfectly well. This can, of course, be practised only in very exceptional instances.

The radical treatment of malignant ovarian tumors and more particularly, carcinomatous tumors, seems to have been very disastrous in the hands of the old abdominal-surgeons, for they strongly discouraged operations in these cases, on account of the great mortality and the almost certain return of the disease. With them the diagnosis of malignancy itself was regarded as a distinct contraindication to operative treatment. Spencer Wells, Keith, Atlee, and even Olshausen in the first edition of his classical work on "Diseases of the Ovaries," held these pessimistic views. With an improved operative technique and a general decrease of mortality attending abdominal operations, our views in regard to the operability of malignant tumors have also undergone a gradual, but decisive, change. This has, no doubt, been influenced in no small degree by Schroeder's work, reported by Cohn, including a hundred cases of malignant tumors treated by him. It demonstrated conclusively that these neoplasms can be removed with not only a comparatively small mortality, but also that the prognosis in point of recurrence is by no means so absolutely hopeless, as we had been led to believe. The operative mortality of these 100 cases was 20 per cent.; 15 per cent. soon succumbed, after operation, to the disease, but 19.5 per cent. were still living at the end of a year, and in five the cure was maintained for from three to four and a half years. Other operators, especially Fritsch and Leopold, soon followed with reports equally as good as Schroeder's. More recently Kratzenstein gives the results of a hundred cases of malignant tumors, treated at the Universitäts-Frauen-Klinik in Berlin, between the years 1879-'92, in which the subsequent course is known. The deaths from operation were 28 per cent.; of the seventy-two surviving patients, thirty-four died from recurrences of the disease, but 36 per cent. were cured, to use his own words, "not only for one year, but permanently." What he understands by permanent cure is not explained; he cites, however, a number of cases in which carcinomatous tumors were removed from patients, who lived at the end of from five to thirteen years. Certainly

TABLES SHOWING TREATMENT OF MALIGNANT TUMORS OF THE OVARY.

No.	Name.	Gynaec. Record No.	Referred by	Age	Social Condition.	Pregnant.	General Health.	Clinical Diagnosis.	Operative Process.	Operative Complications.	Pathologic Complications.	Pathological Condition.	Results.	Remarks.
1	Mrs. J. G.	163 Jan. 21, 1890.	.....	50	Married.	7	Very good.	Dermoid cyst.	Ovariectomy. Hysterectomy. Extraperitoneal pedicle.	.....	.....	Carcinomatous degeneration of dermoid cyst, involving uterus.	Recovery.	Died about five or six months later.
2	Miss B. H.	207 Sept. 5, 1891.	Dr. T. L. White.	38	Single.	....	Poor.	Malignant ovarian tumor.	Ovariectomy.	Extensive and firm adhesions to intestines, uterus, and pelvic wall. General bleeding controlled by gauze packing.	.....	Carcinomatous degeneration of left glandular ovarian cyst, size of 6 months, pregnant uterus with extensive adhesions.	Recovery.	Died about five or six months later.
3	Mrs. G. B.	533 August, 1894.	.....	39	Married.	3	Poor recently. Appearance of sepsis, having temperature of 103.	Ovarian cyst.	Ovariectomy. Gauze drainage.	Extensive parietal, omental, and intestinal adhesions. Free bleeding.	Sinus following removal of drain for 2 weeks.	Multilocular parovaginal cyst with malignant degeneration. Cyst about 6 inches in diameter, and contained many cauliflower growths. Ruptured fluid in sac of adventitious tissue shut off from general peritoneal cavity.	Recovery, and enjoyed good health until about three months before death. Died three years and four months later.	Very weak before operation. Tapped through vagina three times previously and much fluid drawn off. Uterus retroverted.
4	Mrs. R.	648 March 11, 1895.	.....	50	Married.	1	Poor.	Fibro-cystic tumor of uterus.	Ovariectomy. 24 hrs. drainage.	Extensive adhesions. Considerable hemorrhage.	.....	Friable, multilocular glandular cyst with extensive uterine, pelvic and intestinal adhesions. Tumor very large. Glandular carcinoma.	Recovery. Nothing heard from since her discharge.	

5	Miss F.	769 July, 1895.	Dr. Van Kirk.	....	Single.	....	Emaciated.	Malignant ovarian cyst.	Ovariectomy, with extra-pe- ritoneal treat- ment of pedi- cle and vagi- nal drain.	Extensive adhesions to pelvis, uterus, and intestines, and papillomatous infil- tration of abdom- inal viscera.	Bilateral ovarian cyst; left much smaller than right one.	Very large, carcinoma- tous cyst with extensive adhesions and involve- ment of uterus, intes- tines, and omentum. Covered with cauli- flower excrescence. Pa- pillary adeno-carci- noma.	Recovery.	Still in good health.
6	Mrs. M. E.	794 Sept 18, 1895.	Drs. McKelvey and Fundenberg.	47	Widow.	1	Emaciated Mitral le- sion and some ede- ma of ex- tremities.	Malignant ovarian cyst.	Ovariectomy, bilateral. Gauze drain. Right ovary seat of large tumor; left one smaller.	Extensive adhesions to omentum, intes- tines, colon, uterus, and pelvis. Fright- ful hæmorrhage controlled by tow- els, later by liga- tures drawing bleeding surfaces together by buried silk sutures. Gauze drain.	Fæcal fis- tula third day. Pro- found iodo- form poi- soning with very rapid pulse, pleasura- ble deliri- um, etc., 3d or 4th day, and lasted more than a week.	Ascites. Right multiloc- ular ovarian tumor fill- ing abdomen and pres- sing up diaphragm, containing about one gallon fluid; remain- ing part of tumor re- sembled brain tissue; was universally adher- ent. Microscope show- ed carcinomatous de- generation of glandular cyst of ovary.	Recovery. Fæcal fistula closed, and enjoyed good health until about three months be- fore death.	Died 3 years and 6 months after opera- tion from re- currence.
7	Mrs. H.	837 Nov. 11, 1895.	.....	50	Married.	2	Very poor, weak, and emaciated.	Malignant ovarian cyst of both ova- ries.	Ovariectomy (B). Flushing, glass drain- age.	Extensive intestinal and pelvic adhe- sions. Consider- able hæmorrhage.	Bilateral malignant ova- rian cyst filling lower half of abdomen with extensive pelvic and in- testinal adhesions. Left much larger than right. Both made up chiefly of soft embryonal tissue of consistency of brain tissue. Ascites. Cysto- adeno, carcinoma.	Death on fifth day.	.....	.....
8	Mrs. A. F.	944 April, 1896.	Dr. Hartmeyer.	35	Married.	2	Emaciated.	Malignant ovarian cyst, bi- lateral.	Ovariectomy (B). Flushing, gauze drain- age.	Extensive parietal in- testinal and pelvic adhesions and free bleeding. Intralig- amentous; so fri- able that ligation of pedicles was dif- ficult.	.....	Ascites. Right: solid, soft ovarian tumor; size of orange, firmly adher- ent to pelvis and intes- tines. Left: ovarian cyst contained two gal- lons fluid, and pelvic portion was soft, solid, friable, everywhere ad- herent. Microscope showed it to be carci- noma.	Recovery.	Died 3 or 4 months later.

No.	Name.	Gynec. Record No.	Referred by	Age	Social Condition.	Pregnant.	General Health.	Clinical Diagnosis.	Operative Process.	Operative Complications.	Pathologic/Operative Complications.	Pathological Condition.	Result.	Remarks.
9	Mrs. C. V.	963 April, 1896.	Dr. Sadowski.	33	Married.	1	Good.	Small semi-solid tumor of left ovary.	Ovariectomy.	.....	.....	Left ovarian tumor about size of small lemon containing about 2 ounces of opaque albuminous fluid. Solid portion has appearance of carcinoma. Right ovary slightly enlarged, cystic, and contains same kind of fluid as left. Microscopic diagnosis is carcinoma, sarcoma in type, having undergone a mucoid or colloid degeneration. Colloid carcinoma.	Recovery.	Still in good health.
10	Mrs. E. E. B.	958 April, 1896.	Dr. Hamilton.	46	Married.	1	Very weak and emaciated.	Malignant ovarian tumors.	Ovariectomy (B). Hysterectomy. Extra peritoneal pedicle. Flushing. Gauze drainage.	Extensive adhesions. Very friable tumor that could only be delivered piecemeal. Profuse hemorrhage to up to 400 ccs. Later by ligatures. Hysterectomy. Gauze packing.	Iodiform intoxication.	Adeno-cysto-carcinoma of both ovaries, with extensive adhesions.	Recovery.	Died 7 or 8 months later.
11	Mrs. M. M.	1032 Sept. 8, 1896.	Dr. White.	36	Married.	7	Poor, emaciated. Nephritis.	Ovarian cyst with torsion of pedicle.	Ovariectomy (D).	Intestinal, parietal, and pelvic adhesions. Some bleeding.	Nephritis slightly increased but promptly subsided.	Right multilocular ovarian cyst with torsion of pedicle. Size about 12 x 10 x 8 inches. Microscope showed it to be a fibro-adenoma-cystoma with carcinomatous change.	Recovery.	Still in good health.
12	Mrs. H. P.	1108 Dec'ber, 1896.	Dr. Strickler.	30	Married.	.....	Good.	Solid tumor of left ovary, adherent to right ovary. Endometritis.	Curettement, ovariectomy (S). Resection of ovary (D).	.....	.....	Sarcoma of left ovary about 5x6x7 inches, with smooth non-adherent surface. Confirmed by microscope. Right cystic ovary. Round-cell sarcoma.	Recovery.	In good health at last report

13	Mrs. H. S. P.	1170 March 11, 1897.	Dr. W. M. Clover	22	Married.	....	Good.	Sarcoma of ovary.	Ovariectomy (S). Salpingo- oophorectomy (D).	Tumor wedged so tightly in pelvis that it was difficult to deliver. No ad- hesions, however.	.....	Left, solid non-adherent sarcoma of ovary, cov- ered by smooth glisten- ing peritonæum. Tu- mor 7 inches in diam- eter. Right tube closed, ovary cystic.	Recovery.	In good health at last report.
14	Mrs. M.	1269 Sept. 6, 1897.	Dr. Williams.	....	Married.	....	Very poor, cachectic.	Malignant right ova- rian tu- mor.	Ovariectomy (D). Gauze drain.	Very firm adhesions. Surrounding tissues infiltrated, profuse bleeding.	Sinus from ga u z e d r a i n c l o s e d Sept. 9th. Gained strength slowly.	Friable cancerous mass filling right side of pel- vis and infiltrating sur- rounding tissues. Had operated on her before for cyst of left ovary, which had been regard- ed as benign. Cysto- adeno-carcinoma.	Recovery.	Died a few months later.
15	Miss D.	1283 Sept. 15, 1897.	Dr. Patton.	42	Single.	....	Poor.	Ovarian cyst, prob- ably malig- nant.	Ovariectomy (D).	Omental and intesti- nal adhesions.	.....	Right multilocular ova- rian cyst containing three gillous fluid. Small part of cyst about the size of a lemon; soft, solid, friable; has gen- eral appearance of can- cerous tissue. Micro- scope confirms this sus- picion. Glandular car- cinoma.	Recovery.	In good health at present.
16	Miss K. E. W.	1308 Oct. 18, 1897.	Dr. Fulton.	55	Single.	....	Poor, re- cently.	Uterine fibroid. Small ute- rine poly- pus.	Curettement. Polyp re- moved. Ova- riectomy (D).	Tumor very firmly wedged into pelvis and very soft, hence difficult to deliver.	.....	Solid tumor of right ovary about six inches in diameter, covered with distinct capsule and smooth peritonæ- um, not adherent. Soft and easily torn with finger or instrument. Left ovary apparently normal. Small uterine polypus. Microscope confirms suspicion of spindle-cell sarcoma of ovary.	Recovery.	Still in good health.

No.	Name.	Gynæc. Record No.	Referred by	Age	Pregnant.	General Health.	Clinical Diagnosis.	Operative Process.	Operative Complications.	Pathologic! Operative Condition.	Pathological Condition.	Result.	Remarks.
17	Miss D. T.	1434 March 7, 1898.	Dr. Buchanan.	19	Single.	Fair.	Solid left ovarian tumor or pedunculated uterine fibroid.	Ovariectomy (S).	.....	.....	Solid left ovarian tumor about 5x6 inches contained in a smooth, glistening, peritoneal capsule. No adhesions; partly dry, hard; partly very soft. Microscope shows it to be fibro-sarcoma.	Recovery.	Still in good health.
18	Mrs. O. H.	1533 June 29, 1898.	Dr. Poole.	64	Married.	Very poor.	Malignant tumor of ovary.	Ovariectomy, ligation of common iliac artery (D). Transplantation of ureter (D). Suturing mesentery. Gauze drain.	Solid tumor filling whole pelvis and reaching to umbilicus; dissected its way between layers of mesentery and embraced right ureter and common iliac, vein and artery within its substance. Very firm adhesions to pelvic floor, especially to right. Tumor delivered with difficulty, mesenteric attachment right common iliac artery and ureter being torn across. Very profuse hemorrhage from pelvic adhesions. Vessels having been compressed and clamped, pelvic bleeding controlled by towels, later by ligatures.	Failed to rally in response to liberal stimulation and submammmary and rectal normal salt solution, and died one hour after leaving the table.	Large sarcoma of left ovary with extensive peritoneal dissection and adhesions. It had enveloped important structures as described. Round-cell sarcoma bilateral.	Death.	.....

19	Mrs. E. G.	1568 Aug. 29, 1898.	Drs. Toot and Williams.	45	Married.	8	Very bad and ex- tremely weak.	Malignant ovarian cyst. Mi- tral regu- lation.	Ovariectomy (B). Enter- orrhaphy. Resection mesentery.	Very extensive pa- rietal intestinal, omental, mesen- teric adhesions. Profuse bleeding. Much ascites.	.....	Death.	Right malignant papillo- matous ovarian cyst weighing 60 lbs.; ex- tremely irritable, break- ing with least pressure; extremely vascular, containing several gal- lons claret-colored fluid filling the whole of ab- dominal cavity; adher- ent to abdominal walls, intestines, liver, trans- verse colon, omentum, mesentery, and blad- der. Uterus and pelvis being free from adhe- sions.	Chloroform used, but either substi- tuted on ac- count of diffi- cult breath- ing.
20	Mrs. L.	1573 Sept. 12, 1898.	Dr. W. R. Irons.	45	Married.	.....	Fair. (Nephritis two years.)	Uterine fibroid, probably compli- cated by malignant ovarian tumor.	Cœliotomy. Pan hyster- salpingo- phorec- tomy.	Very firm adhe- sions of cysts to pelvic wall render- ed extensive dia- section with expos- ure of left ureter 4 or 5 inches neces- sary.	.....	Recovery. Suffering from recurrence.	Specimen consisted of uterus with fibroid 3 inches in diameter, sit- uated in anterior wall and fundus. Sac of ma- lignant ovarian tumor 5 inches in diameter. Sac of right malignant ova- rian tumor 2 inches in diameter. Malignant shreds attached from pelvic walls. Also, cer- vix and vaginal vault with malignant tissue attached, which was removed after amputa- tion of uterus, as for Baker's operation, and then excising cervix with as much of pelvic floor, especially Doug- las cul-de-sac, as pos- sible.	

very encouraging results. If I may be permitted to give my own experience, limited as it is compared with the statistics obtained from such large clinics, it will, nevertheless, in a small measure, contribute to the study of this rather neglected subject. The mortality of the twenty cases subjected to radical operation was three, or 15 per cent., two deaths belonging to the group of carcinoma and one to that of sarcoma. Of the thirteen recoveries, one has not been heard from since her discharge; two have died from the disease within three or four months; three within five or eight months; one died three years and four months, and one three years and six months after operation from recurrence, making a total of seven deaths from recurrence and one in doubt. Of the others, one—five months after operation—suffers from a recurrence, one is well one year and five months after operation; one, two years and five months; one, two years and nine months, and one, three years and seven months; there are, therefore, three who have survived the operation over three years and one almost three years, and one almost two and one-half years. In the four cases of sarcoma all are living and well at the present time. This again demonstrates the comparatively benign character of the ovarian sarcoma, which has been pointed out by a number of observers. The reason of this probably is the absence of metastatic processes and the freedom of adhesions through which the disease is so easily propagated. Cohn says that sarcoma, so very malignant when affecting other organs, gives the best chances of all malignant tumors of the ovary. Olshausen confirms this and observes that it rarely causes metastases. L. Pick, regards the prognosis of sarcoma of the ovary when bilateral as very unfavorable, but far better, even favorable, when confined to one side only. Kratzenstein also comments on the good results obtained in sarcoma, and states that fibro-sarcoma never recurs; he, therefore, doubts its malignancy.

In the light of the above statistics, I believe, we may draw the conclusion that the results following the operative treatment of carcinoma of the ovary do not seem to justify the extremely pessimistic views even now so generally entertained by abdominal surgeons. Even though complete cures may be the exception, the few years or even months of comfort and well-being added to human life is well worth our best efforts in a disease so hopeless and destructive. Unless a previous examination shows extensive infiltration of the pelvis and distinct metastatic processes in the bladder, intestines, and abdominal walls, an exploratory incision seems to me not only justifiable, but indicated even when the diagnosis of malignant disease is no longer doubtful. In so

doing we relieve the patient of a condition which is often more annoying and serious in its immediate effects than the disease itself, namely the ascites, at the same time gaining information in regard to the nature of the tumor, its attachments, the extent of its metastases, which cannot be obtained to the same degree in any other manner. If the tumor prove to be an operable one, that is, one in which a safe removal can be effected, I should not hesitate to remove it, although a complete eradication of all diseased structures would not seem probable; because, thereby, abdominal pressure is lessened and the ascites is checked, if not permanently, at least often for a considerable period. The patient rapidly recuperates and regains a fair degree of health, even in the most unfavorable cases. Freund goes even further; he recommends abdominal incision in clearly inoperable cases, for the purpose of removing the ascitic fluid by carefully sponging and drying the abdominal cavity, and cites cases in which this simple proceeding permanently influenced the ascites and resulted in marked relief of all symptoms and a decided improvement of the general health. There is another reason why the tumor, when removal seems possible within reasonable limits of safety, should be enucleated; and this is the impossibility of knowing with certainty, in some cases, at least, that the neoplasm is really malignant. Cases of adeno-papilloma not rarely so strongly resemble carcinoma that differentiation from macroscopical appearances alone is not always easy. This is demonstrated by the following case: On December 10, 1895, a patient forty-seven years old was admitted to Mercy Hospital, with an abdominal tumor, which had been noticed for a year, but which had rapidly enlarged during the last few months. The abdomen was distended to almost the size of a pregnancy at term; there was marked emaciation and some œdema of her extremities. The pelvis was filled with an irregular mass extending on both sides of the uterus; the latter was fixed. Considerable ascites was present. The abdomen was opened December 16th, and a large amount of ascitic blood-stained fluid evacuated. Upon either side and behind the uterus, reaching several inches above the symphysis, was a semi-solid mass firmly adherent in the pelvis, and everywhere covered with cauliflower excrescences, which latter also had invaded uterus and bladder. The intestines were here and there adherent to these masses, which in places were as large as a fist; the intestines themselves were apparently infiltrated by the same papillary masses. Wherever the finger could reach in the pelvis the same cauliflower-growths were encountered, bleeding quite freely at the slightest touch. Because of the apparently malignant character of this neo-

plasm, a thorough removal of which seemed out of the question, together with the feeble condition of the patient, who seemed scarcely able to stand such a bloody procedure, non-interference was decided upon. Within about a month her abdomen had filled up to its former size and a speedy termination was looked for. Two years later, however, she surprised me with a visit at my office, looking improved and in better physical condition than she was when I saw her last. She had been tapped thirteen times since the operation, but during the last three or four months the abdomen showed less tendency to refill than before and had not required tapping. The examination showed little change in the pelvis; while the tumor was considerably larger, the ascites had materially diminished. The abdomen was reopened a few days later, and, to my surprise, the cauliflower growths so profusely scattered over pelvis and abdomen were seen only here and there. The tumor, however, was universally adherent, partly intraligamentous, and had also developed in the left meso-colon. The operation was unusually bloody, but a complete enucleation with hysterectomy was effected, the patient making a good recovery and remaining in good health since. Microscopical examination showed the tumor to be an adeno-papilloma, with no evidence of malignant degeneration.

The question of operability of a tumor, even after opening the abdomen, cannot always be determined with ease, especially when large and occupying the greater portion of the abdominal cavity. The reason of this is that our manipulations necessary to determine its attachments must be of the gentlest character, as these neoplasms are often unusually friable and vascular, and do not permit any vigorous and rough handling. And again many of them have a retro-peritonæal or intraligamentous development, in which the exact relation cannot be determined until much of the work of enucleation is already accomplished. If we wish to give the patient the benefit of the doubt, therefore, in doubtful cases, we cannot avoid meeting with some disasters, as is illustrated by the following case:

The patient, sixty-four years old, had for some time suffered from an abdominal enlargement, which reached above the umbilicus and caused great suffering. She was emaciated and had œdema of the extremities. Though she was informed that an operation would be extremely hazardous, she insisted upon having the only chance for relief. The tumor proved to be a solid sarcoma of the ovary, with retro-peritonæal development growing between the layers of the mesentery. Its enucleation, while extremely difficult and tedious, was successful, and the tumor freed from its adhesions and attachments, except on

the right side, where its fixation was unusually firm. In delivering the very large mass out of the abdomen in order to be better able to get at this last part of the work, the right common iliac artery and the ureter were torn across. They passed through the substance of the tumor and were so infiltrated that slight traction was sufficient to rupture them. The bleeding was promptly controlled, but the patient sank rapidly after the completion of the operation, in spite of free stimulation and infusion with normal salt solution. Had it been possible to foresee the unusual complication in this case, the operation, of course, would not have been undertaken.

On account of this frequent intraligamentous and retroperitoneal development and the excessive vascularity and friability so characteristic of these tumors, the operation is often exceedingly bloody, and is apt to put the nerve of the operator and his skill in promptly dealing with emergencies to a very severe test. I have found it a good general rule when bleeding endangers the life of the patient, to boldly grasp the tumor and deliver it wholly or piecemeal, it matters not, so as to reach the main arteries, ovarian and uterine, which are temporarily clamped; the rest of the operation becomes practically bloodless, and can be completed without any undue haste. When hæmorrhage, however, is not troublesome, it should be our aim to enucleate the tumor intact, without tapping or trying to decrease its size, in order to avoid contamination of the peritoneal cavity and the introduction of cancer elements, which might in the course of time produce recurrences of the disease.

It was not my intention to enter upon a discussion of questions purely histologic and pathologic, but to confine myself entirely to the clinical aspect of the subject. Time does not permit to touch upon many other points which would properly come within the scope of this paper, nor will I weary you with a detailed analysis of my cases, for which I have to refer you to the accompanying tabulated statement. I will close with a plea for earlier and prompter operation of ovarian tumors. While the profession at large recognize at the present time in ovariectomy the only treatment for all neoplasms of the ovary, they are not sufficiently impressed with the importance of early operation. Operative treatment is often delayed for months after the patient has been made aware of the presence of the neoplasm, and frequently for only trifling reasons, and apparently with the full sanction of the attending physician, who seems to think that putting off the operation a little while cannot do much harm. While the complications of ovarian tumors caused by delays, such as torsion of the pedicle, sup-

puration, etc., are frequently discussed in our societies, too little is said of the most frequent and greatest danger, malignancy. And still, we know that among every five or six tumors of this character we meet one which is malignant, and that upon its early recognition and treatment our success or failure depends. The improvement of our statistics in the treatment of carcinoma in other parts of the body is principally due to the fact that physicians have been taught to make earlier diagnosis, and have learned the importance and necessity of prompt surgical interference. If the same course is pursued in ovarian neoplasms, our results will not only greatly improve, but malignant tumors will soon cease to be the bugbear they are now.

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THE CÆSAREAN OPERATION, WITH A REPORT OF TWO CASES.*

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Pliny wrote "*Primusque Cæsar a cæso matris utero dictus.*" That this is a fabulous account there seems to be abundant proof, and the title of this operation seems not to have had its origin at the birth of Julius Cæsar, but rather to have been derived from the Latin description of the operation "*cæso matris utero.*" The earliest performance of the operation of which we have an account was by Jakob Nufer of Switzerland, a butcher, and probably also a gelder and spayer, upon his own wife in 1498. The first one recorded by a regular practitioner was in 1610, by Trautmann of Wittenberg, Germany. It was probably, however, known and practised in remote antiquity by various nations and primitive tribes. Thus, in Uganda, in Central Africa, it was performed in 1879 by a native operator, whose method indicated an ancient origin in that he washed his hands and the patient's abdomen in palm-oil, which was largely in use among the Egyptian embalmers. In the evolution of the operation it is remarkable that for over two hundred and fifty years the uterine wound was left without suture, and had to depend upon contraction and adhesion for its closure. Le Bas of Mouilleron, France, in 1769 made the first recorded use of the uterine suture, but it was nearly one hundred years before its general introduction. The mortality of the operation was naturally very great, especially before the days of antiseptic surgery.

On May 21, 1876, Edoardo Porro of Pavia, and later of Milan, overcame the dangers of hæmorrhage and sepsis by amputation of the uterus at about the level of the internal os, together with the ovaries and tubes, and the fixation of the stump in the lower angle of the abdominal incision. Müller of Bern in 1878 introduced his modification, which consists in making a long abdominal incision, and eventrating the uterus before opening its cavity, the better to protect the peritonæum from infection. This method may, of course, be applied either in Porro's operation or in the conservative Cæsarean section. Veit, on

* Thesis read before the Chicago Gynæcological Society, February 17, 1899.

March 21, 1880, did his first operation by ligating the stump and dropping it into the pelvic cavity, thus leaving the raw surface intraperitonæal. This method has been modified in various particulars, the most approved of which is the ligation of the uterine arteries, the infolding of the stump and the covering it with peritonæum, after the manner of Baer; in other words, treating it subperitonæally. Finally, the entire removal of the cervix may be carried out after Freund. Litzmann of Kiel, in 1878, first made use of the elastic-tube to constrict the cervix and control the hæmorrhage, after the method of Esmarch, his fellow-townsmen, while Oppenheimer, in 1880, replaced this method with manual compression.

But scarcely was Porro's operation fairly evolved, when Säger of Leipzig, in 1882, proposed the complete closure of the uterine wound by multiple-suturing, in two rows, which, at his suggestion, was first carried out by Leopold of Dresden. This greatest of all advances so improved the results of the conservative operation, as to greatly restrict the application of Porro's method, and almost to banish craniotomy on the living child from the recognized list of legitimate obstetric operations.

Indications.—These are usually classed as absolute and relative; absolute when there exists no other method of delivery, and relative when the conditions admit of some other method, but where Cæsarean section may be considered to give the best result for mother and child. Absolute indications are furnished by extreme degrees of pelvic deformity and contraction, growths and tumors obstructing the pelvis, cancer of the cervix, and cicatricial contraction of the vagina.

Symphysiotomy has somewhat narrowed the limits, so that pelvic contraction is not considered to afford an absolute indication, unless the conjugate diameter in a flat pelvis is $6\frac{1}{2}$ centimeters ($2\frac{5}{8}$ inches) or under. As to the outlet, it is held that 5.5 centimeters (2.2 inches) between the ischial tuberosities affords an absolute indication.

Relative indications are more difficult to formulate, and should be determined by the conditions of the individual case, and in part at least by the wishes of the patient and her friends. Pelvic contraction less than to constitute an absolute indication, yet sufficient to make safe delivery by the natural passages doubtful, such as a conjugate diameter of $6\frac{1}{2}$ to 8 centimeters ($2\frac{5}{8}$ to $3\frac{1}{8}$ inches), and tumors of the pelvis or soft parts, causing a similar moderate contraction, are the commonest relative indications. The alternatives are symphysiotomy, forceps, version, and craniotomy.

Time to Operate.—Some consider it expedient to wait for labor to

begin, fearing that otherwise uterine contraction would fail and hæmorrhage occur, and that the undilated cervix would not afford sufficient drainage. Experience shows the former fear to be unfounded, while the cervix may be readily dilated from above. To operate before the onset of labor affords the great advantages of proper preparation and of good assistance and surroundings. Should labor be in progress, there should be no unwise delay nor injudicious attempts at delivery.

I shall describe the method employed in my own case, and afterwards discuss the various modifications.

Case I.—Mrs. G., aged twenty-eight years, was married April 12, 1893. Five months after her marriage she aborted at the third month. On August 15, 1894, at about 11:30 P.M., I saw her for the first time. She had been in labor since 6 P.M. of the previous day, now nearly thirty hours, her physician having been in attendance since 2 A.M. Earlier in the evening he had summoned Dr. Gray and later Dr. Gillies. With the patient under chloroform and lying on her back across the bed, each of these three gentlemen in turn had applied the forceps, and after vigorous and prolonged efforts had abandoned this method.

I found the head still high above the pelvic brim, the abdomen peculiarly prominent, and the uterus in seemingly imminent danger of rupture from the excessive violence of the pains. We discussed very briefly the possibilities of version, symphysiotomy, Cæsarean section, and craniotomy. Version was too hazardous of rupture and uncertain of success; symphysiotomy and Cæsarean section were overruled by the unfavorable surroundings and the already protracted efforts at delivery. It was decided that I should apply my forceps (Barnes') and, failing delivery, should perforate the head with the forceps *in situ*.

Placed again under chloroform and on her left side, I succeeded in delivering her in twenty minutes, but it was a feeble triumph, as the child was dead, the result of the too-great traumatism. Those present attributed the delivery to the greater length of my forceps, but I ascribed it rather to the left lateral position, which I greatly prefer in all forceps cases. After delivery we again examined the pelvic cavity, and noted the excessive shortening of the conjugate diameter by an enormous sacral promontory. The patient was lame for three or four months, evidently from injury to the pelvic articulations. After Cæsarean section it was erroneously stated that this woman had been once delivered without difficulty, hence the above details.

A few months later, finding herself again pregnant, she engaged

my services. After examining her pelvis to confirm my previous opinion, I recommended the induction of premature labor, and later endeavored to obtain consent to a deliberate Cæsarean section within, say, a week of full term, but in both instances was unsuccessful. On September 12, 1895, labor began at about 6 P.M., and I saw her at 1 A.M. on the 13th. She was suffering excruciatingly, the head refusing to engage, and the uterus fairly standing upright at every pain. I advised her removal to the Winnipeg General Hospital for operation, but it was only on my sternly threatening to abandon the case, and with the agonizing cries and pleadings of his wife ringing in his ears, that her husband reluctantly consented. Owing to failure of the electric-light, the operation had to be postponed till 8:30 A.M., or fourteen and a half hours after the onset of labor. Meantime, for upwards of four hours, she was kept under chloroform, sufficiently to prevent her suffering, and the abdomen and vagina were antiseptically prepared. The hospital-staff was summoned, and at my request four or five members made aseptic examination per vaginam. One of these accidentally ruptured the membranes, but so little liquor amnii escaped that this proved of no consequence. One or two desired to see forceps applied, but I was particularly pleased to note that Dr. Gray, who had, like myself, the advantage of having witnessed her previous labor, stated frankly and emphatically his opinion that a living child could not be brought through the pelvis. By digital measurement I estimated the obstetric conjugate diameter at 7 to 7.5 centimeters (2.8 to 3 inches). The other dimensions of the pelvis were practically normal; the outlet was not contracted, and there was no evidence of rachitis nor of osteomalacia. I refused to consent to the trial of forceps, which must prove futile and compromise her chances after section. Dr. Robert P. Harris of Philadelphia says "the possibility of delivering a living fœtus in a case of pelvic obstruction ought to be determined by the touch and pelvimeter, and never by experimental trials of the forceps, and by attempts at version, because success in the Cæsarean operation depends very much on the strength of the patient at the time it is commenced." I desire to emphasize this statement, and to observe that this applies not merely to the pelvic measurements, but also to the estimation of the relative size of the fœtal head, and its degree of ossification.

Assisted by Drs. Carscallen and Gray, and Dr. McKay administering chloroform, I opened the abdomen by an incision extending from one inch above the umbilicus and passing it on the left side to near the pubes. Dr. Carscallen, with his thumbs in the incision while

separating the walls, held them firmly against the uterus, and so well did he perform his task that not a single blood-clot was found in the abdomen. Commencing the uterine incision at the level of the Fallopian tubes, I made an opening sufficient to admit two fingers, and with these as a guide, rapidly extended my incision downwards, severing both the uterine wall and the ovisac. Seizing an arm, I tried to bring up the head, but this not proving easy, I immediately relinquished it for the knee, and readily extracted the child, which cried lustily, and the cord was immediately cut between two artery-forceps. The uterus promptly contracted, and my assistant turned it out through the incision, compressing meanwhile the abdominal walls behind it and passing his thumbs behind, grasped the lower uterine segment and controlled the hæmorrhage. The placenta was almost wholly and immediately separated by the uterine contraction, and I had merely to strip the membranes from the uterine wall. I swabbed the interior of the uterus with gauze, wrung out of warm bichloride solution, $\frac{1}{1000}$, but I placed no gauze-packing inside the uterus, even temporarily. I now closed the uterus with ten or twelve deep interrupted sutures of silk, placed half an inch apart, each entering the serous surface about half an inch from the margin of the incision, and emerging on the cut surface close to, but not penetrating, the mucosa, then similarly penetrating the opposite side in the reverse order. The peritonæum was then welted in by a continuous suture, using the Lembert stitch, and before pulling the needle through, placing the thread outside (beneath) its point, thus forming the "button-hole" stitch, and causing the stitches to lie transversely across the incision. The abdomen was closed in three layers, the peritonæum with a continuous silk suture, the aponeurosis in the same manner, and the skin and subcutaneous tissue with interrupted silkworm-gut sutures. Not a single hæmostatic forceps was required during the operation, and the opinion was expressed by medical gentlemen present that she lost no more blood than the average quantity in normal labor. Nine and a half minutes were occupied from the first incision till the delivery of the placenta and membranes (this could be vastly reduced in future operations), and the entire time was about thirty-five minutes. I considered the proposal to render her sterile, but not having had her consent, I refrained from doing so. Her recovery was quite uneventful, the temperature never reaching 100 F. after the third day, and was practically afebrile. (I present the clinical record.) It is of interest that there was not the slightest vomiting during or subsequent to the operation, notwithstanding the long-continued use of chloroform. This

would seem to indicate a special immunity of the parturient woman, and accords with my universal experience with the drug in labor cases.

She was given daily vaginal douches of carbolic solution, but none intra-uterine. The abdominal stitches were chiefly removed on the eighth day, the remainder on the twelfth, and she left the hospital on the twentieth day. She nursed her baby at the breast during her recovery, and continued to do so. She has not complained of any abdominal or pelvic discomfort.

The child (male) weighed ten pounds when stripped. The suboccipito-bregmatic circumference was 14 inches (diam. 4.456 in.), the occipito-frontal circumference 15 inches (diam. 4.77 in.). These relatively large measurements I partly accounted for by the fact that the head had not entered the pelvis and undergone the usual molding and elongation. Incidentally, I may say this is the first successful case of Cæsarean section in Canada, west of Lake Superior.

Case II.—This case is to be accredited to Dr. J. S. Gray of Winnipeg, Professor of Gynæcology, Manitoba Medical College, by whose authority and whose kindness in furnishing me notes of the case I am enable to report it.

Nettie G., aged twenty-two years, unmarried, English, of fair complexion, slight build, and under average height. Family history negative. No abnormal curvature of spine, nor malformation of pelvic bones apparent by external examination. Labor at full term began at 3 A.M., May 11, 1896. Dr. Gray was called at 8 A.M., and found the pains very feeble, and only occurring at intervals of about twenty minutes. The cervix was soft and the os dilated to the size of a half-dollar, the head presenting, and the liquor amnii slowly escaping, but there was no attempt at engagement. Towards evening the pains became more active, and further examination revealed the uterus firmly contracted, the liquor amnii escaped, and the head meeting with firm resistance at the superior strait, the exceedingly prominent sacral promontory rendering the oblique conjugate diameter not more than two and a half inches (6.25 centimeters). Realizing the difficulty, he asked for a consultation. Drs. Blanchard and McDiarmid were called, and Cæsarean section was agreed upon as affording the best chance for both mother and child. In the General Hospital, assisted by Drs. McDiarmid and Blanchard, the operation was performed. An incision about eight inches in length was made from a point two and one-half inches above the umbilicus, and passing it on the left side. Dr. McDiarmid, grasping the uterus around its lower zone and holding it steadily within the abdominal cavity, effectually cut off its circulation,

while an incision was made in the median line of the anterior aspect of the uterus to the extent of about six inches. Seizing the left leg, the child was easily extracted, and the cord was clamped and cut. The placenta was not in the line of incision. Uterine contractions followed within a few seconds, and the placenta was completely separated by the time attention was again turned from the child, a small portion of the membranes only remaining to be stripped off. The uterine cavity was cleared of blood, and its walls quickly mopped with a $1/2000$ bichloride solution. The uterine wound was closed with interrupted "Sänger-Leopold" silk sutures, and the peritonæal edges coapted by a continuous "button-hole" suture. In order to prevent further conception, a loop of each Fallopian tube was drawn up, a Staffordshire ligature applied, and the intermediate portion resected. The abdominal cavity was washed out and mopped dry, and the external wound closed by through-and-through silkworm-gut sutures. No more blood was lost than in an ordinary case of labor. It took eight minutes till the delivery of the child, and ten minutes till the delivery of the placenta and membranes was completed, and the entire time occupied was about forty-five minutes. She stood the operation well, and made an uninterrupted recovery. She sat up on the twentieth and left the hospital on the thirtieth day. The child (female) was fully mature and weighed nearly seven pounds. It was fed artificially and thrived well for some months, but died from ill-feeding and diarrhœa.

In deciding in favor of Cæsarean section in preference to symphysiotomy, I felt that the latter was more or less on trial and gave me no sufficient guarantee that I would succeed in delivering a living child, or that the mother would recover without impairment of the pelvic articulations. To quote Hirst and Dorland ("American Year-Book," 1898, page 448): "Owing to its greater mortality and the increased difficulty in its performance, the operation of symphysiotomy, as was predicted last year, has been largely abandoned in favor of Cæsarean section." Page 507: "The wave of reaction has begun, and the operation is limited now to a very narrow scope, largely because of the difficulty in its performance, and because of its higher mortality than that of Cæsarean section." Hirst further says:² "Increasing experience convinces me that it is one of the most difficult and troublesome of the obstetric operations both in its performance and in its after-care."

As against craniotomy, I argued that the child had an equal right to life with its mother, and who, after it was delivered, would have dared to contest that point? I am prepared to accept the dictum of

Pinard that craniotomy should never be performed on the living child.

Modifications.—Müller's method of first turning out the uterus is open to the objections that attach to a long abdominal incision, greater exposure of the viscera, and an enormous cicatrix, with increased liability to ventral hernia, while the uterus is not even then always removable. Only in case of a macerated foetus or septic uterus should this be done, and the same surgical rule should apply as in the treatment of large ovarian cysts, namely, to evacuate the contents, unless these are septic, through a small incision, and afterwards to turn out the collapsed sac or uterus.

The elastic ligature I regard as quite unnecessary and, indeed, objectionable, as being liable to injure the peritonæum and the adnexa, and to cause asphyxia of the child. It is also liable by compression of the nerve-supply to produce atony of the uterus and subsequent hæmorrhage. The safety from hæmorrhage ought to consist in rapid incision and extraction and rigid manual compression by the assistant. This latter statement also applies to the method of Comerni, as practised by Dr. Murdoch Cameron and Dr. Jardine of Glasgow, of pressing an oval, hard-rubber pessary firmly down on the uterine surface, enabling to dissect slowly down till the membranes bulge into the wound, which is then enlarged to the full size of the pessary, now quickly removed, and the incision is enlarged sufficiently to extract.

It has been recommended to begin the uterine incision below and to extend it upwards. This I consider a very wise suggestion, as in my case it happened that, owing to the head riding upon the pelvic brim, the cervix and vagina were drawn up higher than might have been expected, and the incision so hurriedly made was carried dangerously near the cervix, which evidently during extraction was torn completely through, but fortunately the bladder escaped injury. I have an impression that the relation of the bladder to the uterus changes during pregnancy. Von Franqué of Würzburg ("American Year-Book," 1899) has called attention to two specimens in which the bladder was almost completely separated from the uterus, and the peritonæum descended correspondingly deep, coming into relation with the anterior fornix.

Lawson Tait recommends that the incision be made large enough to admit one or two fingers and extended by tearing. On the other hand, rupture of the uterus is regarded by many as justification for Porro's operation, in that the torn edges will not readily coapt and unite. This fear is probably unfounded. In closing the uterine in-

cision, for the superficial suturing I employed the continuous method in preference to the interrupted, because it is more quickly applied and there are fewer knots and ends to be covered with lymph and absorbed.

I do not regard the Lembert stitch as at all essential so long as the peritonæal edges are closely approximated. The late Greig Smith said:³ "In Cæsarean section I should suture the uterine wound, not by inturning of both peritonæal surfaces, but by outturning both or one of the peritonæal coverings." This he believed would secure a stronger union.

Olshausen⁴ considers it of great importance to diagnose the site of the placenta, and for this purpose palpates the uterus, after turning it out of the abdomen. If impossible to decide, he begins the incision in the fundus and carries it anteriorly or posteriorly, according to the situation of the placenta. Leopold⁴ diagnosticates its position by observing the distance between the round ligaments. Its situation on the anterior wall changes the contour. Marcy,⁵ while deeming it important to determine the site, would not avoid incision over it, and in his case had neither hæmorrhage nor asphyxia. Braithwaite⁶ had a similar experience. I would not occupy time in discovering the placental site. I regard rapid incision through the placenta with immediate extraction a perfect safeguard against asphyxia of the child, or hæmorrhage of mother or child. Marcy's suggestion that the second assistant grasp the uterine edges is excellent.

The most recent modification is that of Heinrich Fritsch of Bonn,⁷ who makes a transverse incision across the anterior aspect of the fundus from tube to tube. In May, 1897, he published his first case, and, though the operation is young, its literature has already assumed considerable proportions. He makes for it the following claims: (a) The abdominal incision can be made higher, the umbilicus occupying its center, thus lessening the danger of hernia; (b) the transverse uterine incision, being farther removed from the assistant's hands, affords better opportunity for manual compression of the lower uterine segment; (c) its cleanliness, blood and liquor-amnii being kept outside the abdomen; (d) the ease with which the child is extracted, and (e) the freedom from hæmorrhage and its perfect control by suture. This latter feature he ascribes to the course of the secondary branches of the uterine arteries, which run horizontally and are not severed as by a longitudinal incision. Thus, also, the sutures will surround and ligate the vessels, being at right-angles to their course. Considerable favorable evidence has accumulated. Schroder,⁸ Schauta,⁹ Clemenz,¹⁰ Johan-

nowsky,¹⁰ Knauer,¹⁰ Riedinger,¹¹ Hain,¹² Kirchhoff,¹³ Müller,¹⁴ Steinthal,¹⁵ Siedentopf,¹³ Heidenhain,¹⁶ and Sänger may be said to have endorsed the plan. While some of these have accorded it unstinted praise, and have verified the claims of Fritsch, others have expressed hesitation and criticised certain features. Only two, Gustav Braun and Evarke, have reported against it. Evarke¹⁰ condemns it absolutely. His patient died, and this he attributed to the wound becoming gangrenous from ischæmia produced by the sutures. He thinks it favors the formation of adhesions with the intestines, while the longitudinal incision favors adhesion with the abdominal wall, and in possible abscess its ready evacuation.

Braun¹⁰ found the hæmorrhage greater than in a former operation by longitudinal section, and the delivery of the child was neither easier nor more difficult.

Steinthal¹⁵ had difficulty in extracting the head, which was retained in a bay of the anterior wall by the contraction-ring. The patient had been in labor three days. He was obliged to make rapid longitudinal incision, and delivered a living, but partially asphyxiated, child. Müller¹⁴ of Bern, while adopting the principle of Fritsch, does not make the incision transversely, but in a sagittal direction over the summit of the fundus from tube to tube. He is careful to stitch the inner layer, and allows the stitches to freely enter the uterine cavity. He emphasizes the fact that the fundal incision affords a more solid and secure line of suture than the longitudinal, which descends into the thinned lower uterine segment, where also the scar would be more liable to subsequent rupture.

I cannot conceive that the fundal incision can be of such paramount importance, inasmuch as the chief advantages claimed may be quite definitely secured by the ordinary method, without the necessity of eventration.

Considerable laxity exists in the application of the term Porro's operation. Many writers restrict it to amputation with fixation of the stump in the abdominal incision, while others apply it also to the intrapelvic or subperitonæal method, as well as to total extirpation. For example, Hirst, in his recent text-book, describes as Porro's operation only the one method of covering the stump with peritonæum and dropping it into the pelvic cavity; while the literature contains cases of total extirpation classed as Porro's operation. Since Porro's essential principle was the performance of a hysterectomy, it seems only reasonable to include under his name the various modifications of that operation.

The terms *coeliohysterotomy* and *coeliohysterectomy*, used to designate the conservative and the radical operation, are open to the criticism that they are equally applicable to the corresponding operations on the non-gravid uterus, the former, for example, to *myomectomy* and the latter to an ordinary *hysterectomy*, unless we prefix the word *puerperal*. I would suggest the terms *gravido-hysterotomy* and *gravido-hysterectomy*, with the use of the prefix *cœlio* or *colpo* when necessary.

The limitation of these two methods is at present the subject of considerable debate, and in some quarters the pendulum seems to be moving again towards *hysterectomy*. The indications for *hysterectomy* may be stated as (*a*) an infected uterus; (*b*) tumors; (*c*) carcinoma; (*d*) *ostemalacia*, and (*e*) *inertia* during operation. Leopold and Haake¹⁷ warn against the conservative operation in gonorrhœal infection. To these some would add pelvic contraction, rendering the patient liable to future *Cæsarean* operations. Hirst¹⁸ in twenty cases did seventeen *hysterectomies*, and three *hysterotomies*, and thinks that the Porro operation is required in practice a little more frequently than conservative. The distinguished president of this society has said:¹⁹ "*Celio-hysterotomy* will always hold a permanent place in obstetric practice as a legitimate procedure; at no distant day it will limit *celio-hystero-oophorectomy*, or Porro's operation, to cases in which the uterus in itself constitutes a source of immediate or remote danger."

While wise conservatism directs us to retain even a fragment of an ovary in cases of *hysterectomy*, and while we discuss the importance of retaining the uterus in cases of ablation of tubes and ovaries, it is surely too radical to remove all these organs merely to prevent future conception. Repeated *Cæsarean* sections on the same patient have been eminently successful, and at least two instances²⁰ are on record in which the operation has been done four times. If sterilization be demanded, we have simpler methods. The tubes are the vulnerable structures, and the patient is not deprived of the important function of the ovary. Mere ligation of the tube, or ligation with division or resection, is not absolutely certain. Subsequent reopening of the tube may occur, and pregnancy, especially extra-uterine, result. Kossman¹⁵ advises division with the thermo-cautery. R. v. Braun¹⁵ resects the tube and covers the end with a cuff of peritonæum. Rühl sutures the uterine stump into the vagina. Beuttner cuts the tube, closes the muscular layers of each end with suture, then the serous layers, and finally sutures the ends together again by a circular suture similar to bowel suture.

A. Neumann¹⁶ divides the tube close to its insertion, then excises a wedge-shaped portion of the uterus in which is located the interstitial part of the tube. The cuneiform cuts may be longitudinal or transverse to the uterus, the depth depending on the thickness of the wall, and are sutured with continuous catgut, which is also used to bring the peripheral end of the tube to the wound, and thus all raw surfaces are covered with peritonæum. Halban,⁹ assistant to Schauta, reports this method in connection with Fritsch's incision.

Dührssen²¹ has performed what he describes as vaginal Cæsarean section, and without opening the peritonæum. Sagittal openings were made in the anterior and posterior vaginal vaults, and the bladder and vesical fold of peritonæum and that of Douglas' pouch were detached from the cervix and lower uterine segment, which were then divided in the median plane; the bleeding being arrested by ligature; he introduced the hand, turned, and extracted a living child weighing 9½ pounds.

Seiffart²² adopted this plan in a case of cancer of the cervix, but delivered with forceps, and carried the division along the anterior wall, turned it in, pulled the fundus down, split the posterior wall, and removed each half of the uterus, after clamping the broad ligament.

Fritsch²³ has done somewhat similarly in cancer of the cervix at full term. After rapid dilatation by deep incision, he delivered with the forceps, and immediately performed vaginal hysterectomy. He advises against either the Porro or Cæsarean operation for cancer, and believes that in rupture of the uterus vaginal hysterectomy is the most rational procedure.

Duchamp²⁴ in Cæsarean section seized the edges, with long catch-forceps per vaginam, and inverted the uterus; then, with the aid of an elastic ligature, amputated the body of the organ, and closed the abdomen by bringing into contact the serous surfaces thus gathered together. Recovery was perfect.

I append the following statistics:

Cæsarean Section.

Maternal mortality, conservative, about 8 per cent.

Maternal mortality, Porro, 37.78 per cent.

Infantile mortality, Porro, 22.4 per cent.

(Dorland.)

The latest edition of Playfair, by Harris, gives a mortality for Porro's operation of 38 per cent.

Leopold²⁵ of 100 sections made 71 conservative, with 7 deaths, 9.8 per cent., of which only 4 were due to the operation, 5.8 per cent. Of the 29 Porro operations, 3 died, but only 1 death was due to the operation, 3.7 per cent., making a general average mortality of 4.8 per cent. Säger's²⁶ mortality rate was 4 per cent., and Braun's²⁶ 3.22 per cent.

Démelin²⁷ gives the following, collected from 1887 to 1895:

164 Cæsarean operations. Maternal mortality 22 per cent., foetal 2 per cent.

55 Porro operations. Maternal mortality 25 per cent., foetal 50 per cent.

Taking only those cases since 1893, the maternal death-rate is 16 per cent. for the Cæsarean and 10 per cent. for Porro's operation.

Craniotomy.

Dieterman,²⁸ Berlin, collected 239 cases, with a mortality 12 per cent. His own cases, from 1882 to 1887, 9.4 per cent. Recent statistics from Leipsic, 8 per cent.

Guy's Lying-In-Charity, 1865-'75, 33.3 per cent.

Guy's Lying-In-Charity, 1875-'85, 16.6 per cent.

Symphysiotomy.

Maternal mortality, 5 per cent. to 10 per cent.

Infantile mortality, about 20 per cent., mainly from injuries during extraction (Dorland).

Pinard's²⁹ statistics give a total of 18.36 per cent. mortality for 200 cases.

Induced Labor.

Of cases in which the antero-posterior diameter is between 8.6 and 9.6 cm., the total mortality-rate of mothers and children in 200 cases was 20.29 per cent., while the best statistics of symphysiotomy give a mortality-rate of 33 for 200 cases. (Tarnier.³⁰)

Mere statistics and pelvic measurements afford no absolute guide in the selection of methods, and each case must be decided on its merits and subject to the judgment and skill of the operator.

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OPERATIONS DURING PREGNANCY.*

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The question of operations during pregnancy is no longer a novel one, and my purpose in making this report to the Society is not to advocate any new views upon the subject, but simply to report my experience in dealing with this class of cases.

My experience embraces twelve cases; five of ovariectomy, one of myomectomy, one of hystero-myomectomy, one of appendicitis with abscess, one of intestinal obstruction during pregnancy, one of intestinal obstruction after labor, and one of fistula in ano. One patient aborted, but the ovum was dead already before the operative interference, which only hastened the abortion which was inevitable. The patient upon whom myomectomy was performed also aborted. This operation was not premeditated, having been undertaken with the diagnosis of ovarian tumor. The results of myomectomy in the hands of others have been so unfavorable from the standpoint of bringing on abortion, that in my judgment the conditions must be unusual to make the operation justifiable. As a routine procedure it is certainly contra-indicated. All of the ovariectomies did well, this experience corresponding with that of other surgeons, and being in happy contrast to the result of the let-alone practice which so often leads to difficulties in delivery, and, unless prompt and intelligent operative measures are taken, to the bruising, infection and necrosis, of the tumors, with peritonitis subsequent to labor. In none of the cases was there the least difficulty in the performance of ovariectomy, and in every way the patients made as good recoveries as though they had not been pregnant.

In one case, in addition to the ovarian tumor of the left ovary, there also existed a parovarian tumor upon the right side. In this case the left appendage was removed, and the parovarian tumor was peeled from its bed in the right broad ligament, thus leaving *in situ* the normal right uterine appendage. This operation was among the early ones in which this procedure was practised. In my opinion, it is one of the best additions to conservative gynæcology.

The following are the cases I have met with:

Mrs. O., aged twenty, one miscarriage, was admitted to the hospital

* Read before the Philadelphia Obstetrical Society, February 2, 1899.

September 7, 1892. The history was, that, having missed her monthly sickness some three months previously, she had had irregular bleeding from the uterus, with severe abdominal pain, accompanied by faintness. On examination a mass was found filling the left half of the pelvis, and having the characteristic feel of old blood-clot. To the right and above could be felt a rounded body, which apparently was the fundus of the uterus displaced by the mass filling the left half of the pelvis. A diagnosis of hematocele due to ectopic pregnancy was made, and an abdominal section was performed with this diagnosis. On opening the abdomen it was found that we were dealing with an intra-uterine pregnancy. There was a distinct sulcus in the fundus, the right half of the fundus having the appearance of a slightly enlarged fundus of the normal uterus. The left half was very much distended and entirely filled the left half of the pelvis. I supposed that we were dealing with a bifid uterus, the left half of which was pregnant. The patient aborted, when the explanation of the physical signs was very simple. It was found that the left half of the uterus was filled with old, laminated blood-clots, this condition giving the ordinary signs, on examination, of hematocele, and the bifid uterus, of which only the left half was distended, had led to the diagnosis of ectopic pregnancy. The patient made a good recovery, and was discharged on the 29th of September.

Mrs. P., aged twenty-seven, multipara, was admitted to the hospital May 15, 1893. Her general condition was bad; she was five-months' pregnant; and had an ovarian tumor of the right ovary, containing about one gallon of fluid. Ovariectomy was performed on the 17th. She made an uninterrupted recovery, and was discharged on the 18th of June. I learned subsequently that her pregnancy pursued its normal course, and she was delivered at full term of a living child.

Mrs. M., aged twenty-one, mother of one child, in fair general condition, was admitted to the hospital May 16, 1893. She was three-months' pregnant, and had a small ovarian tumor of the right ovary, containing less than a quart of fluid. Ovariectomy was performed on the 19th. She made an uninterrupted recovery, and was discharged June 10th. After her return home she produced an abortion upon herself, and died of blood-poisoning about six weeks after her discharge from the hospital.

Mrs. A., aged thirty-eight, nullipara, was admitted to the hospital December 1, 1894. She was recently married, and had immediately become pregnant, and was mortified to find that very soon her abdomen was much larger than the period of her pregnancy, which had advanced to two months when she came

under my observation. She had a freely movable pedunculated tumor, which was very soft on palpation, and which was supposed to be an ovarian tumor, some three or four inches in diameter. Abdominal section was performed on the 3rd, and on withdrawing the tumor from the abdomen it was found to be a pedunculated œdematous fibroid. The pedicle was very small, and it was decided to remove the tumor. In spite of the very free use of morphia, the patient aborted on the fourth day after operation; otherwise she made a good recovery, and was discharged on January 2, 1895. This patient subsequently became pregnant, and was delivered at term of a living child. When I last heard from her, she was in good health, and had had no additional children.

Mrs. H., aged twenty-seven, nullipara, in good general condition, was admitted to the hospital June 5, 1895. She was some six-weeks' pregnant, and was admitted because of a tumor of the left ovary, containing about a pint of fluid. The tumor contained an unusual amount of solid matter, the cyst cavities being small and the cyst walls unusually thick. It was also found that she had a small right parovarian cyst. Abdominal section was done on the 7th. The left uterine appendage and tumor were removed, and the right parovarian cyst was peeled out of its bed, leaving the ovary and tube intact. She made an uninterrupted recovery, and was discharged July 2nd. The pregnancy pursued an uninterrupted course, and a living child was born at term.

Mrs. K, aged twenty-nine, primipara, was admitted to the hospital February 27, 1897. She was pregnant three months, and suffering from an ovarian tumor of the left ovary, containing about one quart of fluid. Ovariectomy was performed on March 1st. She made an uninterrupted recovery, and was discharged March 27th. The pregnancy pursued a normal course, and she was delivered at full term of a living child.

Mrs. P., aged thirty-seven, mother of four children, was admitted to the hospital June 18, 1898. She was in fair general condition, but very anæmic. The abdomen was well-filled with a large fibroid, which was growing rapidly. There was reason to suspect a pregnancy of two months. I was the more inclined to operate because this had been advised by another gynæcologist of experience before the patient consulted me. The tumor was approximately five inches in breadth and ten inches in length. Hysteromyomectomy was performed on the 20th. The patient made an uninterrupted recovery and was discharged July 16th. The pathologist Dr. Babcock reports that the tumor mass was largely made up of the intramural fibroid. A twin pregnancy of two

months existed. He adds: "It scarcely seems possible that full term could have been attained in the presence of so large a tumor." This is the less likely in the case of a twin pregnancy, which was found in this case.

The last abdominal section which I have done during pregnancy I did during the current week, for obstruction of the bowels. The patient was about forty-five years of age, a working-woman, in bad general condition, that is to say, she was older in appearance than in years; she had hard arteries, and looked like a woman of fifty or fifty-five. The operation was done Friday, January 27, 1899. The patient's bowels had not been moved since the preceding Monday. However, she had been about and suffered no special inconvenience until Wednesday, that is, two days before the operation, when she began to vomit. The usual remedies for the vomiting and for the non-movement of the bowels were given; and, as her physician did not see her until Wednesday, there was no reason to suspect obstruction of the bowels; but as these measures did not succeed in emptying the bowels and the vomiting persisted, it was evident that she had obstruction. I saw her first on Friday, when she was constantly regurgitating the greenish-black fluid which precedes fecal vomiting, and perhaps it was slightly fecal, but it was not distinctly or markedly so. Repeated efforts were made over two hours to unload her bowels by irrigating the colon and by purgative enemas without any result, hence operation was decided upon. There was very little to guide one as to the location of the obstruction. There was nothing in the hernial canals. Apparently, there was an undue dullness in the right flank, and it was thought the patient might have an ovarian tumor in the right side, or that the most probable cause of the obstruction, if not due to tumor, would be appendicitis. Therefore, the incision was made in the right semi-lunar line. On opening the abdomen, we were confronted with the large uterus, it being seven-months' pregnant. On finding the vermiform appendix, it was normal. There was fluid in the peritonæum, but all that could be made out was that the intestines were paretic and much distended. However, I noticed that the ileum passed down into the pelvis, it seemed to me, unduly far, considering that the woman was pregnant, and on tracing the ileum I found it adherent in, or at least to, the femoral canal. She didn't have hernia in the sense that the bowel was in the canal, but densely adherent to the old sac of a hernia. The liberation of this bowel was quite difficult, because it was hard to expose the parts. The uterus was in the way, and the incision rather high to work in the femoral canal, and in trying to

separate the very dense adhesions the bowel was ruptured and was subsequently stitched. I observed at the time that all the bowels in sight were distended, whereas, we are taught, if we have an obstruction of the bowels, that the part of the bowels below the site of the obstruction should be collapsed. The incision was closed without drainage. I would have drained had not the seven-months' uterus been in the way. The patient had had labor-pains and the os admitted one finger. It seemed folly to drain, under the circumstances, and I thought it best to let the patient take the chances. The bowels were moved four times after operation, but the woman developed peritonitis and died. There was not only peritonitis, but there was also trouble with the lungs. Preliminary to the abdominal section, knowing that her stomach was full of the material which she was vomiting, the stomach was washed out, but, in spite of that, large quantities of the vomit constantly ran out during the operation, and more or less got into her bronchi, so there was every reason to have inspiration-pneumonia in addition to the difficulties in the abdomen.

After her death a post-mortem was made and it was found she had some peritonitis; and also that an additional band existed in the region of the sigmoid. It is quite possible that this had something to do with her death, although I believe she died of peritonitis.

My experience in this case, and the difficulties of finding anything in the abdomen, except the seven-months' pregnant uterus, and the difficulties of dealing with the adherent bowel when we did find it, make me believe that it would be wiser in such a case, when we are dealing with so serious a condition as obstruction, to promptly do hysterectomy and get the big uterus out of the way, and then we could proceed in a systematic way to do whatever is necessary. I am inclined to believe that the patient would have had a better chance for recovery had this been done.

I have seen a number of other operations during pregnancy. One, the first operation I ever had the pleasure of seeing Dr. Boyd do, was an ovariectomy in a pregnant woman. I assisted him, and the patient made a happy recovery.

Another operation with which I was connected was a case of appendicitis complicating pregnancy. I saw this with Dr. Boyd years ago, before we knew much about appendicitis. In that case the abscess was drained by Dr. Boyd, but the patient died. Dr. Boyd will be able to give us the details of the case.

I saw another case of obstruction of the bowels with Dr. Longaker years ago, where the obstruction was brought about by the fact that

the bowel was adherent to the pregnant uterus. After labor, when the uterus sank down into the pelvis it made traction on the bowel and brought about obstruction. This patient died.

These cases constitute my full experience in abdominal surgery in pregnancy.

Mrs. C., aged thirty, multipara, was admitted to the hospital February 8, 1896, suffering from a fistula in ano of some months' duration. She was four-months' pregnant. Believing that the risks of a labor at term, complicated by puriform discharges in contact with the perinæum, was more serious than the risks of abortion, the fistula was incised and sutured. The wound suppurated, and it was subsequently necessary to pack it until it healed by granulation. She was discharged April 7th. The pregnancy pursued a normal course, and at full term she was delivered of a living child.

With reference to the general principles to guide one in operations during pregnancy, I believe that, undoubtedly, all ovarian tumors which are recognized during pregnancy should be promptly removed, even quite late in pregnancy. The risks of operation are much less than the risks of delay. All of us have been obliged to operate after labor for peritonitis from the bruising of ovarian tumors, and not only our own experience, but that of every other surgeon shows that the risks are very great when the tumor is allowed to obstruct labor. When this plan is followed, my opinion is that the tumor should be removed immediately at the conclusion of labor.

Fibroid tumors, as already stated, I think should not be operated on by myomectomy during pregnancy, unless there is some very special reason to the contrary; because the chances of abortion are so great, and we practically invite it by interference. The only variety of fibroid tumor which it would be justifiable to remove would be a cervical fibroid or one situated very low in the pelvis, which could be gotten out by the vagina, and it should be taken out in the later months of pregnancy; when, should premature labor occur, it would probably do no great harm.

With reference to conditions giving rise to the discharge of pus about the genitalia which are amenable to operative treatment during pregnancy, I believe operation is strongly indicated, as the risks of the operation are far less than is the risk of labor through the genital-canal soiled with pus.

With reference to general operations in various parts of the body, it seems to me that the indication for operation should be marked, that is to say, evidence should be present that the patient's life or health would be seriously jeopardized by leaving the condition continue until after

labor. It has been necessary to operate upon pregnant women many times, and they are not apt to abort. The fear of bringing on abortion by operations in other parts of the body is not correct. So if the indication points strongly to operation, I believe it should be carried out. This applies especially to such diseases as appendicitis or cancer, which threaten life immediately or more remotely.

The only condition to which I care to refer to in particular is that of hæmorrhoids. The teaching of the books in reference to hæmorrhoids is that they should be left alone until after labor. There are several serious consequences which may arise from this, and I think this teaching should be departed from in special cases. I know of one case in which the veins were so pressed upon during labor that the hæmorrhoids sloughed. In my judgment it is a far more serious matter to have sloughing hæmorrhoids complicating the puerperium than to tie them off, in the later weeks of pregnancy. I should not hesitate to remove large, painful hæmorrhoids during the last month of pregnancy, so that the wound would be healed before labor came on.

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EDITORIAL.

THE MEDICAL PROFESSION AND THE UNITED STATES GOVERNMENT.

Very recently there fell into our hands a small and ably edited periodical entitled *The Journal of Public Health*, which announces in its headlines that it is devoted, among other things, to an agitation for the *permanent appointment of a Medical Representative in the Cabinet of the President of the United States*.

We greatly doubt if many of our readers have heard of this Journal and still more if many have ever given a thought to the remarkably anomalous position in which the profession stands in relation to our Government. Among the official advisers of our Chief Executive are an Attorney-General and a Secretary of Agriculture, while the medical profession and the Public Health, far more important because touching the welfare of our citizens more nearly, both individually and collectively than either of these, are ignored. There is indeed a Surgeon-General in our Army, whose residence is at the Capital and who has the quasi-distinction of being an appendix—we had almost said *appendix vermiformis*—of the Adjutant-General's Department. Without authority (for he is subject to the orders of the Secretary of War as expressed by his Chief of Staff) yet bearing a great responsibility, in time of war he is execrated by the public who lay at his door all the natural casualties of camp and field. Of the extent of his actual con-

trol even over the medical officers in the army, when once they have been assigned on the staffs of general officers, the unhappy condition of our troops before Santiago and on our transports, during the war, are sufficient evidence. The present Surgeon-General did his duty to the extent of his power and sent drugs and other equipments enough, as he has testified, but that was a very different thing from getting them to the front. We must not forget that the Surgeon-General himself is only a Staff Officer and that Generals Commanding in camp and field do not hold themselves bound to carry out his wishes (unless enforced by a direct order from the Secretary of War), if the former do not coincide with their own opinions or convenience. Moreover, in the selection of sites for camps we have yet to hear of a single instance where the eligibility of any situation was left to the final decision of the Surgeon-General who of all men, by virtue of his position as chief military surgeon, should pronounce ultimate judgment on such a subject.

In time of peace he is practically a non-entity, merely doing routine department work, never heard of by the general public except on the few occasions when he makes reports and offers suggestions in regard to the general health of the community, which nobody heeds since they are without authority.

When we realize that the food we eat, the water we drink, the air we breathe are not a daily source of pestilence; that the whole country is not yearly swept by terrible epidemics; that so universally inculcated are the laws of hygiene that even the poorest, uneducated citizen cannot plead ignorance; when we realize that all this is due to the constant vigilance and devotion of medical science alone, is it not a shameful absurdity and an anachronism that the sole recognition by the People of these United States of the value of our profession consists of one *political* appointment in the Adjutant-General's Department?

Will the profession ever wake up to a sense of self-respect? Will it ever realize that it has corporate needs as well as corporal ones? We believe firmly that it will do so eventually, else we would save our words. And here surely is an object worthy of our enthusiasm, worthy of a little unselfish working for the common good.

As a corporate body of citizens we have a right to representation in the highest councils of the nation, for to what other body of citizens do the individuals, the cities, the States of this country owe so much? upon whom are they so dependent for that which makes life possible or living endurable. Are the wheat fields of the West and of Texas or the Russian thistle, the dredging of harbors and widening of channels or the internal revenue tax or even the United States Postal Service of

greater value to the community at large than the absence of universal epidemics of smallpox, typhoid and typhus fever, of yellow fever and Asiatic cholera, of filth and squalor and attendant infant mortality? Yet the farmers have placed a Secretary of Agriculture at the President's elbow and there are a Secretary of the Interior and a Postmaster-General in the Cabinet.

The medical profession should and must be represented by a Surgeon-General of the United States who is a member of the Cabinet, whose appointment shall not depend upon political patronage but shall be made upon the recommendation of the medical profession either from the State Medical Societies separately or through a Convention of delegates from each State Society, such Convention to be called by the President of the United States, and each set of delegates to be proportionate, numerically, to the population of the State represented.

In time of war, the Surgeon-General must have absolute authority not only over the medical department but in all matters affecting directly the health and well-being of the Army, subject only to the orders of the Commander-in-Chief, the President. In time of peace, with a large and efficient Department under him, he should be empowered by Congress to safe-guard the Public Health. He and his Assistants should constitute a National Board of Health, with which all State Boards should affiliate while preserving their independence of action within their own territory. Yet, in all cases of general menace, where two or more States are involved or the safety of the country at large is threatened, the Surgeon-General should have the right to enforce efficiency and uniformity of action by the State Boards.

This is what the country needs and what the profession needs. But it will never come to pass unless we make it come to pass. The subject must be constantly agitated by physicians individually and most of all by the *medical press*, through whose united efforts alone can the profession be regenerated. Yet how absurd it is to speak of the influence upon public opinion of the medical press, when the latter is unable to obtain even *financial* recognition from its own medical subscribers.

How can it become powerful and fight for you when you do your best to starve it, begrudging the paltry sum of your subscription?

This matter of non-support of medical journalism, or dilatory payments (which is almost as bad) is the old question which confronts us like a blank wall whenever any reform is proposed or earnest endeavor made to advance the honor and interests of the profession.

Not only are medical men blind and deaf to everything which would affect the common weal but they stand by in selfish indifference to

the efforts of those who are fighting their battles. They are willing enough to reap but they will not pay for the sowing.

You have a press, owned and edited by your fellow-practitioners, which has for years struggled to gain efficient recognition from you while incessantly voicing your interests. But you have shamefully neglected it. You have received *its* support and failed to support *it*. How many subscribers to medical journals, "*which they wouldn't be without,*" show this appreciation by paying in advance? and how many never pay at all? The credit system in medical literature, craftily inaugurated years ago by the lay publishing houses, has been indeed a curse to the medical profession. Medical men, by the avoidance of prompt and willing payment for what they consume, have "sold their birth-right for a mess of pottage" and stand as a body, alone among all professions and trades, disunited and voiceless.

If, in the face of such fatuous imbecility and apparently hopeless conditions, a few medical men have within the last decade made desperate and already partially successful efforts to establish a true medical press which shall be capable of uniting to defend medical interests and to establish again medical prestige in the community, it is not owing to the generous financial support of the profession at large but in spite of it.

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL SOCIETY.

Stated Meeting, February 2, 1899.

The *President*, CHARLES P. NOBLE, M.D., in the Chair.*Operations during Pregnancy.*

BY CHARLES P. NOBLE, M.D.

(See page 425.)

DISCUSSION.

Dr. R. C. NORRIS: My experience has been very limited in operations during pregnancy. I have on two occasions thought it wise to remove tumors during pregnancy, and in both instances the patients went to full term without interruption of pregnancy.

I have also operated once during pregnancy for appendicitis, and had the patient go to term. I have assisted at one other operation for appendicitis, and the patient promptly miscarried.

I believe, with Dr. Noble, that an ovarian tumor should be interfered with, no matter what the period of pregnancy. I have seen two cases that were seriously complicated by waiting until the child was delivered, and the operation performed in the puerperium. I remember operating once in Germantown, for Dr. Cameron, for a tumor which obstructed labor. Rupture had occurred, and had produced general peritonitis, which cost the patient's life.

So far as other operations during pregnancy are concerned, Dr. Noble has very clearly stated the position of most men. I don't feel as strongly as he does with regard to hæmorrhoids. I have known a patient to miscarry as the result of the simple operation for hæmorrhoids, and unless the hæmorrhoidal condition was very pronounced, I should not favor operation. I have frequently in my hospital work had patients with hæmorrhoids which became inflamed and œdematous after labor, but with appropriate treatment, such as ice poultices and applications of an astringent ointment, or witch-hazel, the swelling has rapidly subsided and the condition has largely disappeared. Unless

they were very painful during pregnancy I should not interfere; if they were, I would not hesitate to do so.

Operations for fibroids complicating pregnancy should be avoided when possible. I have now a series of ten or twelve cases in which the fibroids did not promise to present great difficulties, were not situated in the lower segment of the uterus, blocking up the pelvis, and have seen the labors go on to spontaneous termination, and have been much interested to observe the tumors gradually shrink during the puerperal period and in some cases disappear. If a fibroid promised any difficulty by its location, I should prefer to wait until actual labor had set in to see what Nature would do. The longitudinal fibers of the uterus will frequently draw a fibroid out of the way with astonishing facility.

For general surgical conditions one should be governed by the gravity of the symptoms presented; if a patient's life were jeopardized, as in appendicitis, I should not hesitate a moment to operate.

Dr. LONGAKER: In regard to the question of fibroids; some years ago I did a Cæsarean section on a woman whose pelvis was obstructed by a fibroid rendering labor impossible. The tumor in this case was left, and it completely disappeared during the course, I think, of three or four months after her labor.

I was very much interested in what Dr. Noble said in regard to operation for hæmorrhoids, because I have seen some very great suffering after delivery from the pressure incident to labor in hæmorrhoids existing during pregnancy.

The case of obstruction of the bowels referred to by Dr. Noble was a patient whom I saw first on the day preceding the operation. The question of diagnosis in these cases is one of very great interest and of some moment. It was not possible at first to arrive at the conclusion that obstruction of the bowels existed in this case, although I suspected it. The symptoms were very strikingly similar to those that occurred in a patient that I had seen a good many years ago. Of course, there was the question as to whether this vomiting was the vomiting incident to the inception of labor. We thought that this woman was about to be taken in labor from the fact that there were intermittent, cramp-like pains. However, on close questioning and on a subsequent examination, some twelve hours after the first visit, it was doubtful that the woman was in labor. She had borne seven children, and certainly after the lapse of twelve hours there would be some effect upon the uterus. Then the question arose as to whether the vomiting might not be of uræmic origin; the woman had had a trace of albuminuria, but

no casts. During the night and as the result of the administration of some enemata there were two fæcal evacuations, one hard and the other soft. I was of the opinion, however, in spite of this, that there was obstruction of the bowels. I arrived at this conclusion on ascertaining the very great tympany, which seemed to be located in the transverse colon. As Dr. Noble stated, the fact that there was dulness in the right flank, with a little area of colonic tympany toward the spine, seemed to indicate that whatever trouble there was existed on the right side, so we decided to make the incision at the point indicated. The contrasts of the results of percussion on the left side and on the right were very remarkable. It seemed to me on the day following the operation that the patient would get well.

I think it is remarkable that labor was not induced prematurely by the amount of handling which the uterus received in this operation.

Dr. JOHN C. DACOSTA: I have listened with a great deal of interest to Dr. Noble's paper, and am glad to have this subject presented to the Society, but cannot go as far as Dr. Noble in thinking that every case ought to be operated upon. Each individual case presents a study in itself, and it is only by the observation of the case that we can decide whether we ought or ought not to do an abdominal operation. Where the operation is really needed it is the only thing to do. I took that ground very strongly in a paper before the Gynæcological Section of the college two years ago, when I reported a couple of cases in which I had opened the abdomen, removed tumors, and the women went on to full term. In one case both tubes and ovaries were removed in a woman three-months' pregnant. In the other case I removed an ovarian cyst, broke up the adhesions, and released an incarcerated retroflexed fourth-months' pregnant uterus. This woman also made a perfect recovery, and went on to full term, and was delivered of a 9½-pound girl.

As to fibroid tumors of the body of the uterus, I agree with Dr. Noble that they ought to be let alone. The supply of blood to the uterus during pregnancy is so abundant that you cannot tell what the results may be. We know that in myomectomy in the non-pregnant woman we often have severe hæmorrhage hours after we expect it. We are more apt to have it in the uterus supplied with an unusual amount of blood, as is the case in pregnancy. A fibroid of the neck of the uterus, or a polyp, I would not hesitate to take off. Some ten years ago I was called to see a case by one of my assistants, where cancer of the neck of the uterus had developed during pregnancy, or immediately after pregnancy began. The woman was some three or four-months' preg-

nant. Knowing how rapidly cancer develops during pregnancy, I advised amputation of the neck of the uterus, and helped him in the operation. The woman went to full term without abortion or return of cancer.

Uteri will stand a great deal of manipulation and operation, but they won't stand everything, and I question whether the pregnant uterus will stand myomectomy. It will bear operations in other parts of the body; I saw Professor Keen remove a leg at the hip-joint for sarcoma in a woman four-and-a-half-months' pregnant. The result was an uninterrupted recovery. I have seen other operations outside of the uterus in which the recoveries were generally good. This, however, is not a new subject. In the winter of '71-'72, in Canada, I had the opportunity of meeting a very able surgeon, and was told by one who had seen him operate that he had removed a forty-pound cyst from a woman 4½-months' pregnant, and that she had recovered and gone on to full term. We do not allow tumors now to go to forty pounds before they are taken out.

As to hæmorrhoids, I think Dr. Norris has hit upon the right treatment in trying to palliate the suffering. You can operate on the neck of the uterus, as, for instance, remove polypi or small fibromata from the neck, with less risk of abortion than with operations about the rectum.

I congratulate Dr. Noble on his success in his ovariectomies, and it shows us that a good many of the ideas we had ten or fifteen years ago as to non-interference in pregnancy were wrong, and that we can in proper cases interfere with benefit to the woman, but, as I said at the beginning, every case ought to be a study in itself, and no general rule should be observed for abdominal operations during pregnancy.

Dr. GEORGE M. BOYD: I have recently delivered at term a patient who had suffered from symptoms of incarcerated pregnant uterus who had been operated upon by abdominal section, and the adherent uterus liberated. The patient recovered from abdominal section, and within the past three weeks I delivered her at term with a vigorous infant.

The case to which Dr. Noble referred I remember very clearly. It was one of my early cases, in 1884 or '85. The patient had had repeated attacks of appendicitis, and the final attack was during her pregnancy; if I remember rightly, she was about seven-months' pregnant. In that attack there was an acute suppurative appendicitis and a large abscess formation. The patient had elevation of temperature and was evidently septic from a pus formation. An abdominal section was done, and a large abscess cavity drained. Following this

operation and the closure of the wound, the patient fell into labor, and was greatly shocked by the depressing effect of her labor, and died on the following day. At that time we did not appreciate as fully as we do to-day the localization of inflammatory troubles about the appendix, and I thought, in my ignorance, that the attack was one of ordinary cholera-morbus. I remember very clearly that the patient died shortly after the operation, and her death was the occasion of a great deal of ill-feeling toward the attending accoucheur, the family thinking that her death was due to possible septic infection, and not due to the grave operation. It was impossible for me to impress upon them the gravity of the operation.

Dr. NOBLE: I have very little to say in closing. I think I look upon the matter very much as Dr. Norris does. I was careful to say that I would not operate upon hæmorrhoids, unless they were giving marked trouble. I am satisfied that it is much safer to remove large hæmorrhoids which we know by experience will become bruised in labor, than to allow them to take their ordinary course, and take the risk of sloughing after labor. I shall never forget one patient I was obliged to operate upon two or three days after labor. To see this immense, sloughing mass, and to know the condition of the veins in the pelvis immediately after labor, made such an impression upon me that I would never deliberately elect to permit such a situation to develop.

Official Transactions.

FRANK W. TALLEY, *Secretary.*

TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL
SOCIETY.

Stated Meeting, February 17, 1899.

The *President*, NICHOLAS SENN, M.D., in the Chair.

Specimen of Multiple Fibroids.

DR. FRANKLIN H. MARTIN: I present the specimen of a uterus containing multiple fibroids, attached to it a tubo-ovarian cyst of the left side

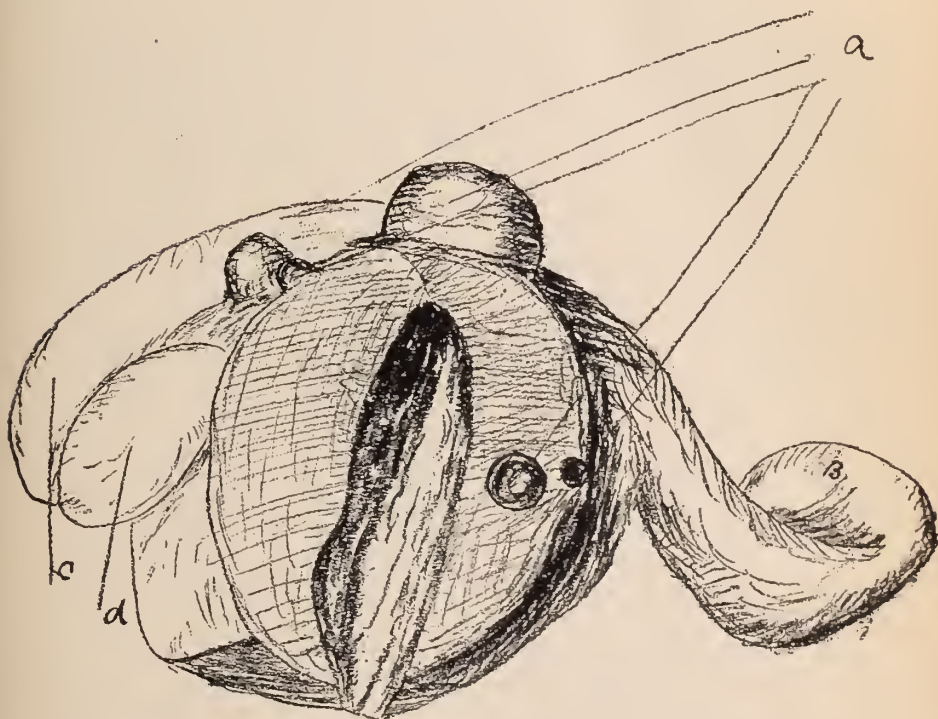


Fig. 1.

A.—Fibroids. B.—Tubo-ovarian cyst. C.—Pyosalpinx. D.—Cystic ovary.

and a tubal and ovarian cyst of the right side. The pathology of the appendages was caused undoubtedly by infection extending by the route

of the mucous membrane of the uterus. There was a history of at least two attacks of localized peritonitis. The appendages were adherent at several points, but were easily enucleated. As pelvic pain and exhaustive uterine hæmorrhages constituted the principal symptomatology, an operation which would insure subsidence of hæmorrhage was desirable. I, therefore, removed the uterus at the cervix. I removed the uterus, as well as the appendages, because the uterus contained in its walls several fibro-myomatous centers, all of which I could not remove as safely, if at all, by myomectomy as by a hysterectomy. The accompanying rude sketch, made by myself, illustrates this specimen as it appeared when fresh. The case was operated on at my clinic February 6th. She is now convalescing.

Specimen of Papilloma of Endometrium.

Mrs. M., aged sixty-two, was brought to my clinic early in January, 1899. For one year she had been having uterine hæmorrhages from time to time, and recently she had become exhausted. The patient was found to have a large heart, urine of small specific gravity, with hyalin

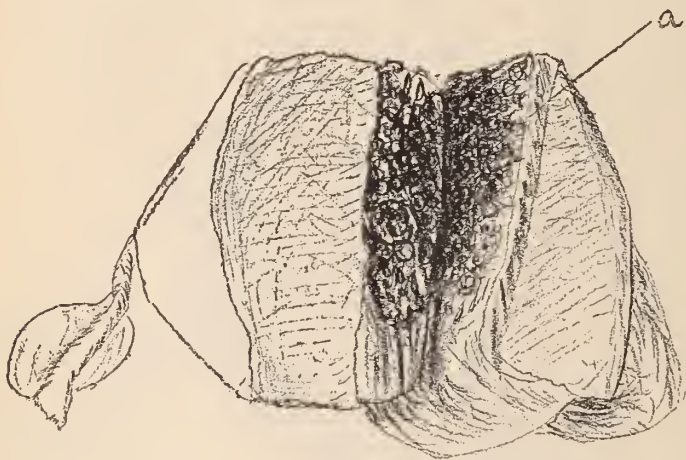


Fig. 2.
Papillary growth on mucous membrane

and granular casts, and with about one-third the normal amount of urea. I placed her upon a non-nitrogenous diet, flushed her kidneys by running her urine by means of water and diuretics up to 75 ounces a day, obtained free catheteresis and skin action, and then, under ether

anæsthesia, made a thorough bimanual examination, curetted the uterus for diagnosis, as well as curative purpose, and packed the organ with gauze. The product of the curettement examined microscopically showed adeno-carcinoma. The uterus, on bimanual palpation, was found globular in shape and about three inches in diameter. The vaginal cervix was practically obliterated. While no extension of the disease could be traced from the uterus the organ was fixed at its attachment to the senile, atrophied vagina.

On account of the extreme weakness of the patient, the large, over-worked heart, the interstitial nephritis, and my inability to reach the case any other way, as the curettement had failed to relieve the hæmorrhage, I determined to perform a panhysterectomy by laparotomy, and to do it in the shortest possible time consistent with complete work. This patient was also operated on February 6, 1899.

The patient was etherized promptly, the abdomen was opened with patient at first in extreme Trendelenburg position, while intestines were covered with gauze sponges, the ovarian arteries of either side rapidly ligated with catgut, forceps applied to uterine side, broad ligament severed and stripped down to uterine arteries, the uterine vesical peritonæum severed; the vagina, which had been previously packed with sterilized gauze, was opened in front of the cervix; then the vagina was opened back of the cervix, the uterus was severed from the cervix, except at the broad ligaments; the gauze was removed from the vagina; two broad-ligament forceps were slipped into the vagina and clamped to the remaining portions of each broad ligament, and the uterus was removed. A roll of iodoform-gauze was drawn through into the vagina and left projecting into the pelvis to the end of the forceps. The time required for the hysterectomy, which was done deliberately, was seven minutes. The patient was on the table, which included anæsthetizing, closing the wound, and dressing, twenty-five minutes. Two pints of normal salt solution were injected subcutaneously during the operation. The point I wish to make here is that several minutes, which might have been necessary to the patient's life, were saved by employing the broad-ligament forceps, because of the extreme difficulty in drawing the uterus up to the wound, or even in reach, so that rapid ligation of the uterine arteries could have been accomplished.

Microscopical slides, made from different portions of the cervix, at its point of circumference, where severed from the vagina and broad ligaments, showed no disease. The disease was confined to the body of the uterus. The fresh specimen showed an abundance of papillary

growths on the mucous membrane of the body. I have attempted to show these in Fig. 2. The microscopical slides from this case may be seen at the pathologist's table, and Dr. Beffel will be pleased to explain them. The patient is convalescing, without incidents, rapidly.

Specimen of Cyst of Kidney.

In 1895 I operated upon Mrs. M. for double pyosalpinx and metritis, which had resulted in extensive peritonæal adhesions. The operation was double salpingectomy, oöphorectomy, and hysterectomy, performed through an abdominal incision. The patient recovered promptly, and has been in excellent health until about six months ago, when she began to complain of weight in the right side, and shortly afterwards she discovered a tumor to the right of the umbilicus. She was again referred to me by her family physician, Dr. Alford of Huron, South Dakota. On examination I found a tumor of irregular outlines, with elastic walls, giving a sense of fluctuation, about eight inches in length and four inches in the other two diameters. It could be pushed to the umbilicus toward the left, to the crest of the ilium below, and would make a circle, the axis of which might be estimated at about eight inches, and the end of which was the right-kidney space. The tumor would readily occupy the right-kidney space. The left kidney was not palpable. From percussion over the tumor when placed in the loin marked tympany was observed. By means of the Harris bladder-divide, employed for thirty minutes, the left side of the bladder yielded seven drachms of urine, and the right side not one minim. Kelly's cystoscope, which was also employed without an anæsthetic (so no attempt at catheterization of the ureters was made), showed the mouth of the ureters widely separated; therefore, an anomalous condition of the ureters could not account for the showing of the ingenious divide.

Examination of the urine of the left kidney demonstrated that that organ was doing well the work of both kidneys. Thirty-six ounces of urine a day was secreted, and the amount of urea was 300 grams, on a hospital diet. The urine was increased by drinks and diuretics, and elimination from bowels and skin insured by proper methods. My diagnosis was cyst of the right kidney, probably retention from obstruction of the ureter, possibly adeno-cystoma.

I decided upon a post-peritonæal exploration, and, accordingly, February 2, 1899, I explored and removed the specimen presented here through a lumbar incision. Upon reaching the kidney and separating it from the surrounding fat for considerable space, I made a small

incision in it, from which all the fluid from what seemed a group of small cysts immediately escaped, leaving nothing but their membranous walls remaining. It was readily seen that the normal secreting power of this kidney had been destroyed by long pressure from the retained fluids. I, therefore, did not attempt to repair the obstructed ureter, as advised by Fenger, Senn, and others, when a small portion of the cortex still remains, with the hope of revivifying the functionless organ.



Fig 3.

but tied off the vessels and ureter and removed the organ. The patient rapidly recuperated from the operation.

Dr. Zeit, of Professor Klebs' laboratory, says of the specimen which I now show you, and which I have attempted to show in my drawing marked Fig. III.:

"The cystic kidney, Mrs. M., is one of hydronephrosis, due to occlusion of the ureter in some way. The secreting power of the kidney had been destroyed. The fluid of the cyst contained no trace of urea. The atrophy of the secreting portion of the kidney was so complete that

drainage or restoration of its ureter would not have succeeded in producing regeneration of the corticle portion."

I believe that the right ureter was injured by the disease for which I operated in 1895, or possibly by the operation itself, which demanded extensive enucleation in removing the impacted appendages.

DISCUSSION.

Dr. NICHOLAS SENN: There is special room for remarks on the case of hydronephrotic kidney, because experimental research has demonstrated the fact that hydronephrosis, due to obstructive lesions that are purely mechanical, is amenable to conservative measures. In this respect I carried on a series of experiments years ago, producing absolute obstruction of the ureter and the highest degree of hydronephrosis. I carefully studied the cases from a few weeks up to six months, and in cases where I found hydronephrosis up to five or six months nothing was left of the kidney except a thin shell. This used to be considered as a legitimate condition for the removal of the diseased organ. I found, however, at the same time, in the same animals in which this condition was produced, that a conservative operation, consisting in draining the kidney, was usually successful in restoring the functional capacity of the debilitated organ. This is an extremely important subject in urinary surgery, and one that should not be lost sight of by the general practitioner or the specialist. A kidney obstructed by mechanical causes is amenable to improvement and to return of functional capacity by conservative procedures; in other words, the removal of what was formerly considered justifiable cause for nephrectomy of so-called shell-kidney would seem unjustifiable. If in such cases we can by a nephrostomy create a temporary outlet for the escape of urine, the intrinsic capacity of the kidney to regenerate its own tissue is sufficient to restore, in course of time, the functional capacity of the organ. I have, therefore, considered it very important, indeed, in contemplating nephrectomy, always to keep this matter in view, that is, precede a mutilating operation always by conservative measures, until we can satisfy ourselves, either by the clinical course or by the pathological conditions that may develop themselves, that no such termination is possible. I, therefore, hope that some of the members of this Society, who have had sufficient experience, will enlighten us on that part of the subject pertaining to the report of the interesting case presented this evening by Dr. Martin.

Dr. DANIEL T. NELSON: There is one query I wish to raise, and

that is, whether, previous to the operation, when Dr. Martin spoke of using the endoscope in the bladder, and seeing the points of entrance of the ureters, he attempted to catheterize the ureters so as to find a stricture, if there was one present, and whether it might be possible to relieve some of these cases in that way, by treatment through the ureters.

Dr. CHRISTIAN FENGER: As to the indications for primary nephrectomy in cases of mechanical obstruction of the ureter or of the pelvis of the kidney, it is based upon the consideration that the kidney is useless. We are hardly able to draw any conclusion from what we see of kidney-tissue, when the organ has been exposed by lumbar incision and even by bisection, because it has been found, over and over again, that a kidney in which we would expect absolutely no secretion, on account of the thinness of the walls of the dilated cavities, would excrete an astonishing amount of urine. Furthermore, if we cannot examine every part of the surface of such a kidney, there may be secreting territories that are not found during the operation, because the kidney is not sufficiently movable to have it entirely in view. There may be an area where there is considerable kidney-tissue left; consequently, I have made it an invariable rule not to make a primary nephrectomy in such cases, but resort to a nephrostomy, and then see what the capacity of the kidney is for carrying on its function. If it is not convenient at the time of that operation to give attention to the ureter, as in most of the infected cases where the patient cannot stand prolonged operating, or if the cysto-nephrotic kidney is so large that it takes too much operating to find the ureter from below, it is better to wait two or three months, until the dilated kidney contracts, which it always does when drained, and if it is found that the kidney is valuable, as far as the quantity of urine and urea secreted is concerned, operate on the ureter to restore its potency, and save the kidney. If, on the other hand, the kidney is found valueless, or the passage through the ureter irreparable, the kidney is extirpated. Objection has been raised against nephrostomy on account of the danger of microbic infection, through the drainage-tube, during the course of those months. I believe such an objection is largely theoretical. Of course, infection may occur in some cases, but we can protect them with a reasonable degree of assurance against it; at least, I have not lost a patient from infection after nephrotomy.

Dr. MARTIN (closing the discussion): In reply to Dr. Nelson, I will say that, after using the Harris device, and finding that urine escaped from but one side, in order to obviate any possibility of there being an anomalous condition at the entrance of the ureter into the

bladder, which was possible, I exposed the ureter by Kelly's cystoscope, but as the patient was not under an anæsthetic, I did not attempt to catheterize the ureters. However, I think I should have done so.

A Preliminary Report upon the Use of the Doyen-Thumin Crusher or Clamp; with a New Instrument for Extending Its Work upon the Broad Ligaments and Other Soft Structures.

BY HENRY P. NEWMAN, M.D.

(See page 391.)

A Clinical Contribution to the Treatment of Malignant Tumors of the Ovary.

BY X. O. WERDER, M.D., PITTSBURG, PA.

(See page 397.)

DISCUSSION.

Dr. CHRISTIAN FENGER: I was very much interested in the paper of Dr. Werder. The question of malignancy in its relation to tumors of the ovary is a very important one, and is becoming more and more recognized. There are even some authors who have gone further than Dr. Werder with reference to malignant ovarian tumors. The tumors described and cited by the Doctor were only such as were clinically malignant. He looks rather favorably upon papillomata, and does not mention in this connection cysto-adenoma with papilloma formation in the cysts, forms of tumors that are probably also malignant. The question arises, what do we understand by the word malignancy, by metastasis, and cachexia? In ovarian tumors we have to distinguish, as I think many of us do, between dissemination in the peritonæal cavity and dissemination through the lymph or blood-vessels to distant organs. The dissemination to the peritonæum is rarely a true metastasis through lymph or blood-vessels, but implantation of living tumor elements floating in the peritonæal cavity. On the other hand, we have true metastases in a minority of cases to distant organs. Metastases or implantations on the peritonæum have been found to disappear so often that, perhaps on this account, papillomata have had a reputation for benignancy which they

do not deserve. If we consider the implantation of tumor elements on the surface of the peritonæum as an indication of malignancy, even the most benignant of ovarian tumors, namely, the dermoids, do not escape suspicion. Implantation has been found in three cases. We call these tumors clinically benignant. This cannot be said with the same degree of certainty about the adenomata. A typical adenoma, as well as typical cystoma, should represent benignant-tumor forms. When mixed, however, with papillomata there is a strong element of malignancy in them. The difference between the diagnosis in the operating-room and in the microscopic laboratory is great, and many a tumor, which appears to the naked eye to be benignant, when examined microscopically, is found to contain islands of malignant tissue. The apparently typical tumor forms, are by closer examination, in the majority of cases found to be mixed cystoma, adenoma, and papilloma.

In 150 cases of adenoma Stratz found, by closer examination, 2 typical adenoma, 2 cystic-adenoma, 1 papillary adenoma, 2 unilocular cysts, and 144 mixed tumors, *viz.*: 39 mostly papillary adenomata, 105 mostly cystic adenomata. In the last-named 105 there could, by closer examination, always be found places of papillary degeneration. This fact renders some of the tumors which were supposed to be benignant suspicious of approaching malignancy. Strauss calls attention to the fact, as bearing upon the question of malignancy, that it requires a minute examination of the tumor to decide about its character. He often found traces of malignancy in the tumor near the remaining part of the ovary. I have no doubt that a great many ovarian tumors of the adeno-cystoma variety contain carcinomatous islands, or, if we will accept that theory, that they later on develop carcinomatous islands. He calls attention to the fact, as many others have done, that a tumor which looks perfectly benignant becomes malignant later on. From a clinical standpoint, from what we see in operating, from the symptoms and so on, fully 20 per cent., or one case in six, is clinically malignant. Then, it is very likely that there is a much larger proportion of the tumors that are really anatomically, and, consequently, in the course of time, clinically, malignant, and if we add the papillomata, we get 39 per cent. of malignant tumors. If all the cysto-adenomata were examined carefully there would undoubtedly be found malignant islands in a great many of them. So I am disposed to conclude that over 50 per cent. of ovarian tumors are malignant anatomically, and that, consequently, all ovaries should be removed without delay. Again, I agree with Dr. Werder, that partial removal of the ovary for cystoma is sometimes advisable. The social conditions in the in-

dividual case may be such as to require children, but if this be not imperative, it is more advisable to remove the whole of such an ovary rather than to make a partial resection, on account of the possibility of future malignancy.

As to the question, if malignant adeno-cystomata, with papilloma formation, are to be regarded as carcinoma, in the same sense as a carcinoma, originating in the intestines, for instance, I would like to know if the Doctor thinks that carcinoma with adenoma was implanted on the peritonæal wall, also in those cases where the tumor disappeared after partial removal, where only the larger tumors were removed and the smaller ones were left. It is a question whether this condition is not due more to the absorptive power of the peritonæal cavity than to a difference in malignancy.

In this connection, some observations of Kocher in regard to peritonæal implantations in cases of carcinoma of the stomach are of special interest. In speaking of the permanent cure following pylorectomy for this disease, he makes the following remarks (*Correspondenz-Blatt für Schweizer Ärzte*, 1898, No. 20): "If we look back upon those of our cases that have had no relapse, we find one or another amongst them where there was found at the time of the operation, as well as carcinoma, nodules on the peritonæum, as large lymphatic glands, all of which were certainly not removed. It looks as if absorption or disappearance of secondary carcinoma in lymph gland and peritonæum can take place after the removal of the primary focus, the same as has been observed in tuberculosis of the peritonæum and lymph glands; that the conditions for the disappearance from lymph glands and peritonæum are better than in the primary tumor is easy to understand. The primary carcinoma of the stomach is exposed to many chemical and mechanical injuries that will cause more rapid growth of the carcinoma tissue. In the glands and peritonæum, on the other hand, it is possible that encapsulation from increased connective-tissue formation, aided by immigration of leucocytes, may take place, or, perhaps, retardation of growth through abortive substances ("abortivstoffe"). There must probably be some reason why the internal remedies that have been found most effective against malignant tumors have gained this reputation, especially in tumors of the lymph glands."

In conclusion, while we regard, with Cohen, Freund, Stratz, and Dr. Werder, 20 per cent. of ovarian tumors to be clinically malignant (carcinoma, sarcoma), we may, with Kohn, Spencer Wells, Stratz, and others, add the papillomata to the malignant ovarian tumors, which, in

the two hundred cases published by Stratz, would bring the percentage of malignant ovarian tumors up to 39 per cent., or 78 out of 200; but even this high percentage of malignancy may probably be too low, because the fate of many of the patients has not been followed long enough; further, a non-adherent ovarian cystoma gives an exceptionally good chance for radical cure after removal, on account of its anatomical conditions, a pedicle, often narrow, being the only communication with the rest of the body. Thus, we may, with Stratz, regard all neoplasms of the ovary suspicious.

Dr. EMIL RIES: During the four years that I was associated with Professor Freund in Strassburg I have seen a number of cases similar to those which Dr. Werder has operated on, and which have been reported by Freund, Jr. I have had the opportunity of observing the clinical course, the microscopical appearances, and the results of those cases. In a large proportion of the cases it was doubtful in the beginning whether it were better to operate or allow the patient to die without operation. I remember very well that Professor Freund always, when he opened the abdomen, made it an important point to examine by sight and touch the whole abdomen before he decided upon the removal of the slightest portion of any of these malignant neoplasms. That is a very important point which Dr. Werder has also mentioned. We should make sure that we can remove everything before we begin doing it, because as soon as we commence to remove these tumors the hæmorrhage may become so profuse that there is no other way of stopping it than to go ahead and complete the operation, if necessary, by scooping out or scraping out the entire tumor mass.

As to the frequent implantation metastases, I believe Freund was the first to use that name in gynecology. They are by no means a symptom of malignancy or of the carcinomatous nature of the primary tumor. Pfannenstiel, whom Dr. Werder mentioned, reports a case where an operation was performed on an apparently inoperable malignant papilloma with multiple metastases on bowels, omentum, parietal peritonæum, etc., but where the removal of the tumors seemed impossible, and the operator was satisfied with the removal of the ascites and closed the abdomen. Two years later the patient was still alive, in much better condition, and it was decided to remove all of the papillomatous masses that had been observed in the first operation. They had all disappeared, and only a few small warts could be seen on the peritonæum. That is not the course which we are wont to observe in cases of carcinoma. What we expect to find in carcinoma is progressiveness of growth of the primary neoplasm, and of every

little metastasis that has been formed. That is why we are after the lymphatics in carcinoma of the breast, of the tongue, of the uterus, or any other part of the body. In true carcinoma there is only one observation of which I know similar to Pfannenstiel's experience with papilloma, and this was made by Schuchardt. He operated for carcinoma of the uterus through the abdomen, and, finding the lymphatics enlarged, he satisfied himself with the removal of the uterus, and did not remove the lymphatics. The patient recovered from the first laparotomy. A year or more after the first operation a second laparotomy was performed, and the enlarged glands were found to have disappeared. This is the only observation of which I know that seems to speak against the independent growth of every metastasis in carcinoma. But I beg to suggest that there is a possibility of a different explanation. The fact that these glands were enlarged does not prove absolutely that they were enlarged by the growth of carcinoma. If we have a sloughing carcinoma of the cervix, it is possible that there exists a septic condition of the glands, and an inflammatory enlargement of the glands instead of a malignant one. However, the surgeon who reported this case considered it one of malignant degeneration of the glands, and compared it with the disappearance of tubercular growths on the peritonæum, as is frequently observed after laparotomy in tubercular peritonitis, and Professor Fenger has compared them with malignant tumors of the ovary. Recent observations seem to indicate that by merely making an incision we may be able not only to impart a tendency to heal to a tubercular development on the peritonæum itself, but also to tubercular lesions in the glands of the mesentery, as some experience of Dr. R. Peterson tends to prove. The same thing may hold good with reference to carcinoma.

Our ideas as to the definition of malignancy have been considerably shaken up of late. Professor Fenger mentions that these implantation metastases are entirely different from the usual metastases belonging to the lymph and blood-currents. Last year we had the report of two cases in which there was transportation of a new growth from the original seat along the blood-current. I refer to those cases in which a mass of chorionic villi was transported from the uterus into the vulva, and there grew as a tumor, forming a syncytioma. This transportation could not have taken place in any other way than by the blood-current. The tumor was enucleated, and did not return. Still, in such a metastasis, we have a symptom which is usually one of the most dangerous in the development of malignant syncytioma. This neoplasm usually runs its course in a short time, and most patients

succumb inside of six months or one year. But, in the two cases referred to above, we see the formation of undoubted metastases along the blood-current, and yet they are not malignant. It is a great temptation to talk about these metastatic implantations, because they are of such great importance, and because our definition of carcinoma is largely dependent upon that of metastasis.

In papillo-adenoma of the ovary with implantation metastases, I do not know that I have personally observed any cases in which the implantations produced any destruction of the tissue on which they grew. I have seen them grow on bowel, on omentum, etc., but I have never seen perforation, for instance, of the bowel as a result. We are not fully informed about the condition of the underlying tissue in these implantation metastases, and it will be easy and advisable to remove some of the implantation metastases from the omentum or the parietal peritonæum, and make microscopic examinations.

As to the possibility of making a diagnosis during the operation, I will call attention to the recent methods of Cullen and Pick, which consist in removing a piece of the suspected neoplasm, and, by means of rapid methods of freezing and formalin treatment, make it ready for microscopical examination in the course of the operation. This is perfectly feasible, but there are certain difficulties which make such examinations less valuable. A primary tumor of the ovary may originally be benign and still contain malignant portions, and if we do not happen to select the malignant part for the purpose of making a microscopic diagnosis, the diagnosis may be very misleading, although correct as far as the specimen removed goes.

As to the possibilities of such operations, Dr. Werder has given us some interesting cases. Last year I had a similar experience to that mentioned by him, where the uterine artery was torn. Whenever I have to operate on such malignant neoplasms I follow the rule to look out for the large blood-vessels, for every other structure we may injure without great peril. There is sometimes a chance for repairing a big blood-vessel, but the patient is liable to lose considerable blood before it can be repaired, and the patients are in grave danger from the loss of blood. I have had difficulty in removing carcinoma of the uterus with the lymphatics, where the neoplasm was very small in the uterus, and where a carcinomatous gland lying underneath the external iliac vein was larger than the original tumor. In the removal of the gland I tore the vein, profuse hæmorrhage following. This case seemed a very favorable one for operation, but turned out to be absolutely un-

favorable. In carcinoma of the ovary we may have similar conditions. The big blood-vessels have to be treated respectfully.

Dr. Werder laid stress upon one very important point, that is, waiting too long before operating. This is my experience also. The longer the delay the greater the danger of multiple metastases. Delay usually means a number of consultations, a number of examinations, and the danger of causing metastases by these. As soon as such a tumor of the ovary is discovered, undoubtedly it ought to be removed.

In closing, I wish to thank Dr. Werder for his valuable paper.

Dr. HENRY T. BYFORD: With regard to the propriety of operating or letting these large malignant tumors alone, we cannot always be sure they are malignant before we open the abdomen, and after we open the abdomen, we often find it better to remove them to prolong life and secure the only possible chance of a recovery.

This was illustrated very clearly in a case of my own, in which a young girl, about eight years of age, had a sarcomatous tumor of the ovary about the size of an adult head, which gave her the appearance of a little pregnant woman at full term. In operating the omentum was found adherent over the upper portion of the tumor extensively. And yet now, after five years, there is no return.

In another case I removed a large, friable, carcinomatous ovarian tumor piece-meal, from a woman having the appearance of being eight-months' advanced in pregnancy. I found a long chain of enlarged glands in the meso-colon extending from the rectum up. She recovered from a condition of constant suffering and extreme debility to one of good health, and remained well for over a year, when I lost track of her.

In another case I removed a large carcinoma of one ovary, but was obliged to leave a smaller pelvis-bound carcinoma of the other ovary. The patient, who could not have lived six months, improved in health and lived nearly a year and a half. If a malignant tumor can be quite safely removed, it should be removed, even though there be metastatic growth, for the latter may develop very slowly.

Dr. WERDER (closing the discussion): I wish to thank the members of the Society for their kind reception and the free discussion of my paper. I was very much interested in the remarks of Professor Fenger and Dr. Ries, and I agree with Dr. Fenger that probably a larger number of ovarian tumors are malignant than we have been generally led to believe, because in many cases the microscopical examination is not as thorough as it should be. Very rarely, indeed, is the whole tumor thoroughly examined, and, as Professor Fenger

has said, in many cases only a small island of malignancy may be present, which may easily be overlooked. I also concur in the remarks of Dr. Ries, with reference to the harm produced by frequent, and especially vigorous, examinations, because they may be the means of causing rupture of the tumor, scattering its contents all over the abdomen. I have observed that in one or two cases in which I am sure rupture of the tumor was caused by examination a day or two before the operation.

The Cæsarean Operation, with a Report of Two Cases.

BY A. McDIARMID, M.D.

(Inaugural Thesis.)

(See page 411.)

DISCUSSION.

Dr. FRANK CARY: I am greatly privileged this evening in having listened to the Doctor's excellent paper, and I wish to congratulate him upon the success of his operations. I desire to say a few words in connection with Cæsarean section, although he has covered the ground very thoroughly. I think we all agree that such operations should be performed only in hospitals where aseptic methods can be carried out and proper assistance can always be at hand. As to when the operation should be performed, some of us will differ on that point. Everything being favorable, I believe we should perform the operation after labor has set in, before the membranes have ruptured, thus securing some dilatation of the cervix. Having prepared the patient as for a laparotomy, the operation should be done as rapidly as possible. The incision in the uterus should be made quickly, without reference to the position of the placenta, and as to whether this should be done within the abdominal cavity or without depends upon the operator himself or the ease with which the organ can be turned out. Where it can be turned out there is less liability of blood and liquor amnii entering the abdominal cavity. It has been my good fortune to control hæmorrhage with the rubber ligature and manually. I assisted Dr. Frankenthal in one case, using the latter method. I fully agree with the essayist that the ligature should be abandoned, for it certainly increases the risk to the child, and I believe hæmorrhage can be much

better controlled with the hands than with the elastic ligature. After the incision has been made, I believe there is very little hæmorrhage while the uterus is in a distended condition. It is only after the organ is somewhat relaxed that we get much hæmorrhage. At this time we are instructed that the uterus should be kneaded in case it does not contract. I think that, perhaps, this had better be modified somewhat, for, with our ability to control hæmorrhage with the hands, we should not risk forcing air into the large sinuses.

The Doctor speaks of the use of the vaginal douche after the operation. I do not think I should use it. He also refers to wiping out the uterus with a $\frac{1}{1000}$ bichloride of mercury. I would use sterilized water, if anything. I wish to add that it has been my observation that too many stitches are introduced. He speaks of an incision of six inches at the time of the extraction of the child. It seems to me, fewer stitches might have been inserted, owing to their becoming approximated by the contraction of the uterus.

The essayist evidently considers the life of mother and child of equal value. On this point I most emphatically differ with him. The child's chances at best after birth, in a normal condition, are not equal to those of an adult. Infant mortality in these cases is very great at best, and I should say that Cæsarean section should never be considered, except at the request of the parents, pointing out to them clearly the risks attending such an operation, unless it enhances the mother's chances over any other method of procedure.

Dr. LESTER E. FRANKENTHAL: I feel much like Dr. Cary, that, on account of the lateness of the hour, I shall have to be brief. My personal experience in Cæsarean section has been limited, and the Doctor's paper is so complete, that there is little to be said on the subject. I wish he had spoken of Cæsarean section done after death of the mother. Statistics have demonstrated that many children are delivered alive in this way. I have reference to those statistics collected by Lange, who gives 147 cases, in 17 of which the children were delivered alive after the death of the mother, though only 3 remained alive permanently. Rinehart gives statistics of 189 operations, of which number 5 children were delivered alive, showing the importance of the subject. Of course, these two statistics may contain the same cases. In connection with this phase of the subject, interesting experiments were made by Breslau and Runge, showing that the life of the foetus in guinea-pigs and rabbits was prolonged in proportion to the cause of death of the mother. The more rapid the death of the mother, the more acute the cause of death, the less rapid is the death of the foetus.

If, for instance, the mother be shot, the foetus is apt to live longer than if the mother's life has been destroyed by some wasting disease, accompanied by, first, pyrexia, and, second, carbonic-acid intoxication.

Another point I regret the Doctor did not refer to, is the Walcher position. This position can be used with great advantage, instead of symphysiotomy, and in many cases instead of Cæsarean section. My own experience with the Walcher position is, to a certain extent, a limited one; but, as I sat here this evening, and tried to enumerate the number of cases in which I have employed it, I could readily recall seven cases, though that is not the whole number. One operation was done at the Mercy Hospital, during the absence of Dr. Jaggard from the city, some five years ago. Dr. Paddock sent for me, at Dr. Jaggard's request. Two were done at the Michael Reese Hospital, and four in private practice. In all of those cases, but three, the pelvis was of the justominor variety, and in three of the seven cases craniotomy had been done on the foetus in previous pregnancies. In every instance I succeeded in getting a living child. I do not wish to stand here before this assembly of specialists and explain the mechanism of Walcher's position. But suffice it to say that, on account of the rotation of the ilium on the sacroiliac joint and the lowering of the symphysis, the antero-posterior diameter of the inlet is increased by from one to two and a half centimeters; that of the outlet correspondingly decreased. On this account, the patient must be taken out of the Walcher position after the presenting part has arrived at the mid-plane. In hospital practice I mean to improvise a Walcher position by fixation and traction of the ankles and shoulders in one direction, backward and downward, and backwards and upwards, respectively, and of the pelvis in the opposite direction, forward, with the patient in the obstetrical lateral position, instead of the now customary and so painful one. Should the bag of waters be ruptured before placing patient in position is another question that only experience can decide. Thus far I have always ruptured it when os was nearly dilated, upon placing patient in position, believing that the position was (1) less painful; (2) less dangerous (rupture of uterus); (3) during a pain the presenting part can be forced into the inlet. On this account, I feel that the Doctor should have referred to the Walcher position, as it well deserves mention.

The Doctor informs us that he recommends careful pelvimetry. This is the only weak point in the otherwise so splendid paper, as far as I can see, because he does not give us sufficient pelvic measurements. He delivered the woman, the first instance, with forceps. I believe,

with the woman in the Walcher position, she could have been delivered without high forceps. He does not tell us anything about the foetus he delivered in the first pregnancy, or its condition, the marks, fractures, etc., on the skull after the delivery. The kind of pressure-marks would give us a clew as to the woman's pelvis and the relation of the head of the foetus to it. Another thing: He tells us that in the second pregnancy the woman was in labor several hours, and during the examination the bag of waters ruptured and discharged, a small quantity of fluid, "forewater," and after opening the uterus, during the Cæsarean section, there was a gush of amniotic fluid. That in itself proves that the head had already become partially engaged in the inlet, as it was able to prevent further leakage of amniotic fluid from below. It, again, is another sign in my mind that this woman might have been delivered by other means than Cæsarean section.

I wish to say a few words now with reference to Fritsch's operation. The Doctor does not describe the method as it is given by Fritsch. Fritsch does not say that the fundus should be cut from one tube to the other, but from a centimeter away from the insertion of one tube to within a centimeter of the other. That in itself will avoid the accident described by some operators: (1) hæmorrhage, (2) gangrene due to ligation of the large vessels while suturing.

I believe Fritsch's operation of Cæsarean section will be the one that most of us will be likely to do in the future, first, on account of the lessened hæmorrhage; second, on account of the ease with which the peritonæal toilet can be made; third, on account of the fact that uterine contractions are very much more perfect after the delivery of the child, since the musculature itself is not so much disturbed in its continuity; fourth, the adhesions to moving abdominal organs are less serious, since less apt to be permanent, as we frequently observe when we open the abdomen a second time.

There is another point I wish to refer to. It is more than four years since I read the article, and I might be mistaken. I have reference to Leopold's method with regard to diagnosing the placental site from the relation of the round ligaments and tubes. I believe Leopold and Bayer, through his student, Palm, made the observations about the same time, though independently of each other, so that Bayer should be given some credit. While the relation of the round ligaments to the uterus might enable one to make a diagnosis of some placental sites, it would not do so in cases of lateral implantation of the placenta without utilizing the anatomical relation of round ligament and tube to each other and their mates on the opposite side. Palm (Bayer)

carried on experiments in his clinic, and has diagnosed from external palpation the placental site through the insertion of the round ligaments and tubes, and after delivery his diagnoses were verified by assistants, who inserted their hands into the uterine cavity and established the site of the placenta.

A word in regard to the uterine sutures. I do not believe it makes as much difference whether we put in a series of stitches and then the interrupted stitch, as it does upon the quantity of musculature we get into each stitch, and then the tightness of the stitch; and I believe that we should go in at the edge of the incision, picking up a large bite of muscle, in a curved direction, as far as we can, and come out again at the edge of the serotina. This way we will get as perfect coaptation as possible. I believe that it would insure more perfect union.

Finally, I wish to say that, as my personal experience is limited to three cases, at the present day I feel I should always wish to wait for labor to set in before operating. I would make one exception; that is, where I had primarily decided to do a Porro, it is unnecessary to wait for labor to set in. Where you are going to do a conservative operation, and expect muscular contraction and drainage, you had better wait for labor to set in. For a lower-uterine segment and cervix prepared and dilated by labor-pains is in an entirely different condition for permanent drainage to one dilated forcibly from above during the operation, without the effects upon the musculature of previous labor-pains.

Dr. CHARLES S. BACON: We owe it to Dr. McDiarmid, for his report of these two cases, to criticise his paper frankly and freely, and I will simply add to what Dr. Frankenthal has already said in the same line, that there is a certain routine procedure, which should always be adopted in cases of contracted pelvis. In the first place, we should find out the exact condition of the pelvis, as near as we can, by measurements. Secondly, we should determine, as far as possible, the size of the foetus, and whether there is a relative disproportion between the head and the pelvis. Then the various methods of treatment should be considered in turn. A routine procedure should be carried out in all of these cases; the exact measurements having been taken, and a computation made as to the relation between the size of the pelvis and the foetus, the patient is anæsthetized and placed in the Walcher position. If the pelvis is one of the first or second degree of contraction, try first the method of Hofmeier, pressing the head into the pelvis. With the skilful application of this method, the head may be forced into the pelvis, and a more serious operation avoided. If this is found

to be impossible, the question of turning is to be decided. If the method of expression fails, and turning is not decided upon, we have to decide, in case the child is living, between symphysiotomy and Cæsarean section.

The statistics of the essayist are hardly fair concerning the mortality of symphysiotomy. Zweifel has had over thirty cases without a death. Neugenbauer, the authority on symphysiotomy statistics, says that symphysiotomy is less dangerous than Cæsarean section. There is also another great advantage in symphysiotomy in these cases, where there is only a small degree of contraction; the pelvis remains permanently larger, so that labor afterwards is, by the forces of Nature, possible. Therefore, symphysiotomy should be preferred in these cases, and it seems to me, in the first case reported, instead of Cæsarean section symphysiotomy should have been done, if expression failed and turning was contraindicated. In the second case the high degree of contraction, c. v., $6\frac{1}{4}$ cm., made the symphysiotomy more doubtful. Only after all of these considerations have been taken up, and considered, in any report of cases, have we a basis for judgment as to the operation which was done.

Dr. ALBERT GOLDSPOHN: Dr. Bacon's allusion to symphysiotomy reminds me of a favorable experience I had in a desperate case, where that operation was successful. I doubt very much whether I would have been successful had I resorted to Cæsarean section. The woman was a cripple, with very marked antero-posterior and lateral spinal curvatures; the pelvis was very much contracted. Its antero-posterior internal diameter was seven centimeters. Two physicians who had seen her tried to induce premature labor, but were not successful, and the case dragged along until the woman reached full term. At that time she had been in the hands of a number of physicians. She had been in active, pronounced labor for over forty-eight hours, and during this time was anæsthetized with chloroform three times. Five different attempts with forceps were made to extract the child, but were unsuccessful, and during some of these attempts considerable force was used. Then, about two o'clock in the morning, I learned of the affair, at which time the temperature of the patient was 102° , pulse 140, and the soft parts externally so swollen from œdema as to lose their ordinary shape. The case appeared to me to be one too discouraging for Cæsarean section. This case occurred about three years ago, when symphysiotomy loomed up the last time. I did symphysiotomy, with very little ether, and it consumed very little time. I had the strongest man in the crowd to stand ready with his arms to keep the pelvis from

separating too far. And the symphysis did separate over two inches during the delivery. The delivery of the child was very simple with forceps. There was no trouble in controlling hæmorrhage from the wound. The symphysis was wired with silver-wire sutures passing through the periosteum. The only difficulty the case presented was that the uterus would not contract. All the ordinary means known had no effect, and nothing but introducing a boiled electrode of a strong battery with interrupted galvanic current caused it to contract, the other electrode being placed on the abdomen. I had the uterus in my hands (bimanually) for two hours, and if I had made a Cæsarean incision in the uterus, I doubt whether it would have contracted at all. The woman's temperature subsided, and in the after-treatment no material difficulty was encountered of any kind. Osseous union was fair; and she recovered her gait, which was fully as good as before. The child was delivered alive; it lived three hours, and at the autopsy it was found to have its anterior fontanelle ruptured, with injury to the longitudinal sinus, evidently by forceps that were used by some one before I saw the case.

Dr. FRANK A. STAHL: I would congratulate Dr. McDiarmid upon the splendid results he obtained in his case. Though it appears from the lack of pelvic measurements that there is some room to doubt the judgment which led up to his deciding upon the section, yet as a whole the results are worthy of much praise.

Dr. Frankenthal raises the question that possibly this woman could have been delivered in other ways; but if I understand aright that she has a conjugata vera of $7\frac{1}{2}$ centimeters, I doubt very much that any other method would, even probably, have yielded so favorable a result to the mother and a living ten-pound child.

Symphysiotomy the Doctor considered, but I do not believe he would have had so good results with it; there would have been no trouble to deliver the child, but it is doubtful if he could have saved it where there was so large a cephalic development as would probably exist in the case of a ten-pound baby.

Dr. Cary raises an important point, namely, that Cæsarean section should always be performed in hospitals, because of superior facilities and of aseptic advantages. This, perhaps, should be the rule, more especially where the case permits time to deliberate and to elect; not so in emergency cases. Country practitioners are often so situated that they cannot have the advantages of a hospital, and yet some of them have been very successful in doing these operations. Even in the city, I know, from my own experience in private practice, that a

Cæsarean section can be done without much assistance. I did my first Cæsarean section about six years ago. It was an unfavorable case, yet I did the best I could under the circumstances. The woman had eclampsia at term, and was moribund; I thought to save the child and performed Cæsarean section. I waited for an assistant; and lost. Technically, Cæsarean section in the hands of a skilful man is a comparatively simple operation. Had I to do the operation again, under like circumstances, I would not wait for an assistant.

Another point touched upon is with reference to the gradual change that is taking place throughout obstetrical thought in regard to the position of symphysiotomy. It has been shown, upon closer and more critical investigation that in many of the favorable cases of symphysiotomy which were reported the child could have been delivered by other and simpler means. To-day it is not an uncommon feature to meet with statements, and coming from the pens of those who have symphysiotomized, that they hesitate now to speak of symphysiotomy in the same glowing terms they formerly employed; that many cases reported could have been delivered otherwise with better results, and so forth.

The prediction was made in this Society by one of its members some years ago, when the tidal wave of symphysiotomy was just approaching, that such would be the case, that time would prove the fallacy of the then exaggerated claims.

Dr. Cary spoke against the carbolic douche; it would be interesting to have him tell us why. In my experience this douche, given with ordinary discretion, always adds to the more perfect restoration and comfort of the patient. I do not know what his experience has been with reference to the flushing of wounds, physiological or pathological, but I have always found it to be advantageous.

I was just a little surprised to hear the suggestion offered that the Walcher position enjoys sufficient advantages to raise it to such dignity that it could be relied upon to overcome a Cæsarean-section condition. I believe the most earnest advocates of the Walcher position only concede a gain of a centimeter, and in extreme cases a centimeter and a half. I have known of cases in which Cæsarean section was apparently indicated; they were most carefully nursed preparatory to such operation; yet when the eleventh hour approached, they would leave the hospital, go home, and pass through an easy, normal labor. Such are the cases where any position will encourage normal delivery, the upright, the prone, the dorsal, the Walcher, or assistance like the Kristeller, the Smellie, and so forth. But if true gross disproportion exists of the dignity of a Cæsarean condition, the Walcher and other means

would be of assistance to deliver a dead or macerated foetus, but not a living neonatus.

There seems to be a belief that the Walcher position is something new; this is erroneous. It has always been in vogue, and made use of from time immemorial. The fact that in times past it has not been a panacea for pelvic disproportions proves that the Walcher enthusiasm shown in many directions is founded upon hyperenthusiasm, rather than parturient fact.

Dr. NICHOLAS SENN: I wish to make a few remarks in reference to making and closing the visceral wound in performing intentional Cæsarean section. I believe we all recognize that the two great dangers from this operation are hæmorrhage and sepsis, both of which, I am satisfied, are minimized by making the visceral wound by the use of blunt instead of cutting instruments. The visceral incision is made usually near the fundus of the organ; it has, consequently, always been my custom to incise the peritonæal coat, to make an opening large enough to insert two fingers, and let blunt instruments do the rest. Instead of opening up large venous sinuses, which later on may be a source of possible infection, I make a wound large enough for the purpose of minimizing the risk of danger from hæmorrhage. The visceral-uterine wound is sewed exactly in the same manner as in intestinal wounds; similar parts are approximated; muscularis should be sutured together by using a deep row of catgut or absorbable sutures, which should be buried, with a row of silk sutures. This is the ideal way in closing a visceral wound of the uterus, whether made for the purpose of Cæsarean section, or any other intention.

Dr. McDIARMID (closing the discussion): I wish to thank the members for their kind reception, and to express my satisfaction with the interesting discussion that my paper has called forth.

Dr. Cary spoke of kneading the uterus; that is needless until after the suturing is completed, because the assistant has perfect control of the hæmorrhage up to this time, and, if the suturing is perfect, the hæmorrhage will necessarily be completely arrested in so far as it pertains to the operation. Post-partum hæmorrhage, it is true, may occur from the placental site, and this would only call for kneading when it occurs.

As to the the number of stitches, I regard this of very little importance, although it is better to put in a sufficient number to control hæmorrhage.

Dr. Frankenthal referred to Cæsarean section on the dead mother, saying that I had omitted this point. It was in my mind, I had notes

of it, but I regarded it as so infrequently applicable in comparison to its application on the living woman, that I purposely omitted it.

As to the Walcher position, admitting all that its advocates claim for it, it is doubtful whether it would have been of any avail in this case. Dr. Stahl has answered that point so well, that I will not consider it further.

As to pelvimetry, I should, on a similar occasion, in the interest of scientific data, present more elaborate measurements. We naturally have to institute comparisons of the diameter of the pelvis with the diameters of the foetal head. The child was large in the case I have reported, it having weighed ten pounds. We measured the circumference of the head, and it is as I have given it, and this must be considered. He referred to the fact that there was a large quantity of liquor amnii in the uterus when I incised it, as evidence that the head had engaged in the superior strait. It is so easy to form an *a priori* judgment upon a case we have never seen. The patient was only examined by these gentlemen immediately before she was carried into the operating-room. At this time there were no labor-pains to expel any considerable quantity of the liquor amnii. Moreover, I do not believe that decides the question in any case, but it is decided by the adaptation of the child's head to the lower-uterine segment, and the waters advanced beyond the head more by the to-and-fro action of the uterus, its relaxation allowing space between the lower-uterine segment and the child's head.

Dr. Frankenthal says that I spoke of Fritsch's incision from tube to tube; no person for a moment supposes that Fritsch carries the incision absolutely to the tube; indeed, it is related that his first case has again become pregnant, in proof that no injury was done the tubes. I referred only to the location of the incision as to its height. I understood the Doctor to speak of cutting out a portion of the musculature in order to bring the serosa together more easily. However, I may be mistaken in that. That was the original plan advised by Saenger, but after a time he found it was not necessary. The peritonæal coat is relaxed, it does not contract correspondingly with the musculature, and there is ample peritonæum to cover without the excision of any of the musculature.

Dr. Bacon is inclined to believe that the patient might have been delivered by version. I fear that such a procedure would have fallen under what is described as injudicious attempts. I want to remind him of the fact that we had three large, powerful men on a previous occasion, pulling on the head, until it was thought by those present that

the woman would be pulled in two, before I had seen her. To have attempted version in this case would have meant certain loss of the child's life.

Official Transactions.

C. S. BACON, *Editor of Society.*

ABSTRACTS.

This Department is in Charge of the Following Staff of Sub-Editors:

DR. T. W. CLEAVELAND, DR. G. H. MALLETT, DR. A. D. CHAFFEE.

PÆDIATRICS.

UNITED STATES.

A Case of Coxa Vara.

G. A. SUTHERLAND (*Clin. Jour.*, January 11, 1899) reports a case of bending of the neck of the femur, first seen at the age of two years. At that time the child could not walk, and, though rachitic, presented deformities that this condition could not account for. When lying on her back the limbs were flexed at the knees and the feet rested on their outer edges with soles parallel, thus bringing the buttocks, the outer sides of the knees, and the feet in the same plane, with strong eversion and flexion of the limbs. Adduction was found normal, abduction very limited, and eversion very marked. Flexion at the hip was so free that the toes could be easily raised to the mouth or ears, and the child usually slept with feet resting on the chest. The patient could not stand, but was able to crawl with a frog-like motion. She was put on anti-rachitic treatment for some months, then lost sight of till she was four years old. At that time she could walk, but very awkwardly; the feet were strongly everted, there was a marked pelvic roll, extreme lordosis, and prominence of the abdomen. Though these symptoms were suggestive of congenital dislocation of the hip, there was no evidence that the heads of the femoræ were not in normal position. The rachitic changes.

manifested in bending of the shafts of the femora and tibiæ, displacement outwards of the patellæ, and flat feet would not explain the gait and attitude. A skiagram showed the characteristic changes of coxa vara, the neck of the femur being so curved upwards that the trochanter rose to the level of the head of the bone. Mr. Watson Cheyne operated upon the case; the left femur was divided at the junction of the upper and middle thirds, a small plate of aluminum screwed into the upper fragment, and then, the limb being fully inverted, into the lower fragment, and a long splint applied so as to keep the limb in extreme eversion. Two years later the child was able to walk satisfactorily; the left foot pointed directly forwards, the right one was still slightly everted, but the peculiar gait had disappeared.

Early diagnosis in these cases is of importance, as it is only then that non-operative interference may be of value. Some of the cases published have been described as congenital, others as developing during active rachitis. In the latter class yielding of the neck of the femur might occur as the result of much standing or walking, but this factor was absent in the present case. The condition may have begun in intra-uterine life, the limbs being kept firmly applied to the body of the child; another fœtus might produce this effect, and this child was one of twins. Also, the position assumed during sleep, if not sufficient to give rise to bending of the femoral neck, might, no doubt, intensify the process when once begun.

Protargol and Argonin in the Treatment of the Purulent Ophthalmia of Infants.

EDWARD S. PECK (*Medical News*, January 21, 1899) believes that argonin and protargol are superior to silver nitrate in the treatment of ophthalmia in that they cause quicker destruction of the gonococcus, earlier disappearance of the secretion and inflammatory process and resolution of the injured corneal and conjunctival tissues. Protargol contains more silver than either silver-nitrate or argonin. It is more germicidal than argonin, and, though more painful, is less likely to irritate; it does not require a stronger solution than from one-half to two per cent. In some of the cases treated by the writer with protargol the gonococci disappeared in two weeks, and in none later than four weeks; he has also found less ulceration of the cornea, with iris protrusion and incarceration, less corneal staphyloma, and less cicatrization

of the conjunctiva than with silver nitrate, due, no doubt, to prompter resolution of the injured parts from the earlier disappearance of the gonococci and of the secretion and inflammation. For bacteriological examination the writer uses simply a cover-glass preparation stained with methylene blue, in a field magnified 750 diameters; fifteen to twenty pus-cells containing gonococci would be a large number; and when these cells contain from twenty to a hundred diplococci they may be said to be rich in bacteria.

The writer's procedure in these cases is as follows: If one eye only be affected, the other eye must be covered save a small opening at the temporo-malar portion of the orbit. The best covering for a new-born child's eye is lintine; a piece slightly larger than the orbit is put on first, then a little sterilized cotton, then gauze, and finally the whole bound in place by collodion; this protected eye should be inspected every second day. The nurse should never carry the child in her arms, and should handle the affected eye from behind. Small layers of lintine are kept on ice and placed therefrom on the child's injured eye, being changed every minute; and this treatment must be kept up unceasingly (perhaps for two or three weeks) till there is positive evidence of abatement of the secretion. The eyeball, lid, interspaces, and conjunctival sac should be thoroughly irrigated with warm saturated solution of boric acid, and as the secretion diminishes and becomes shreddy it may be wiped away with cotton wet with the same. The solution of protargol, at first five to ten per cent. (?), should be carried rather forcibly over the eyeball and into the folds of the sacs by a large pipette, and should be used from four to six times daily. As soon as the secretion lessens a two per cent. solution may be substituted and used less frequently. Examinations for gonococci should be made every second day, and an eye should not be regarded as safe till at least a week has gone by without finding them; as they may be still harbored in an eye that has apparently become healthy.

It is of advantage to know that protargol can be combined with many other salts, also is unaffected by cocaine, atropine, eserine, etc., and is not decomposed or precipitated by the albumen or alkalies present in the secretions from mucous membranes. In some of his first cases the author used the pure protargol dusted into the eye, and later a fifty per cent. solution; but finally found most satisfactory a five per cent. solution, which was allowed to remain in the eye for fifteen minutes. The article closes with a report of a number of cases treated with protargol.

A Case of Probable Congenital Tuberculosis in a Child born of a Mother with Tuberculosis of the Bladder.

H. McC. JOHNSON (*Phila. Med. Jour.*, January 28, 1899) reports the following case: The mother in early life had a right coxitis, resulting in ankylosis, and for eight years has suffered from tuberculosis of the bladder, the diagnosis having been confirmed by the finding of tubercle bacilli in the urine. Labor was complicated by an adherent placenta, granular to the eye and touch on its fœtal aspect, and with necrotic areas and foci of inflammation distributed throughout its substance. The child was small, much emaciated, and so weak that it could not nurse; it became still more emaciated, made efforts at coughing, and finally died in collapse from a profuse pulmonary hæmorrhage, having lived three months and two days. On autopsy the right lung was found bound by old adhesions to the entire chest-wall, the diaphragm, and the pericardium; it contained two large and several small cavities, and was otherwise entirely solidified, much of it being a cheesy mass. The left lung was studded everywhere with miliary tubercles, but there was no pleuritis. The mesenteric glands were enlarged. The kidneys and liver showed spots of fatty degeneration. The brain was not examined. Circumstances prevented the writer from making a physical examination or even seeing the child again till the day before its death; but in view of the mother's history, the pathologic changes found microscopically in the placenta such as usually accompany tuberculosis involving both the maternal and fœtal sides, the emaciated condition of the child at birth, and the advanced stage of tuberculosis revealed at the autopsy, he is convinced that the child must have been tuberculous at birth.

A Little Epidemic of Poliomyelitis.

LEO NEWMARK (*Med. News*, January 28, 1899) reports a group of four cases of poliomyelitis occurring in a California village of only forty-nine inhabitants. The first case was a boy 8½ years old; four days later his brother, 10 years old, was taken, and again four days later another boy, a constant playmate of the two, was affected. The fourth case occurred on a farm three miles distant; was taken suddenly with fever, headache, nausea, and paralysis without anæsthesia of the lower extremities; partial paralysis of the left arm and difficulty of urination followed; the respiratory muscles became involved, and death

occurred on the sixth day. This last case seems to have been an acute ascending paralysis, undoubtedly due to a myelitic process. In the same county, but at considerable distance from the cases mentioned, still another was reported in the month preceding the occurrence of the above. Also at a quite remote village in this county six persons were seized a few months previously with cerebro-spinal meningitis.

Heredity was formerly considered an important ætiological factor in anterior poliomyelitis, but the occurrence of the disease in several members of one family is probably due to propinquity of locality. The mode of onset, moreover, is like that of an infectious disease; its seasonal relations have confirmed this idea, and the occurrence of epidemics has placed it beyond doubt. The writer gives brief summaries of recorded epidemics; the most extensive occurred in Vermont in an area fifteen miles in length and twelve miles in breadth; 132 cases were noted, which probably represented 90 per cent. of the total number. In some epidemics a portion of the cases have been of spastic cerebral paralysis. A very interesting epidemic in a single family has been reported by Pasteur, in which seven children became ill in rapid succession with fever and severe headache; one developed a flaccid paralysis of the left arm, another cerebral spastic hæmiplegia, a third a spastic monoplegia, two others temporary tremors, while the remaining two had no nervous disturbance after the disappearance of the fever. We learn from a study of these epidemic cases that the infection does not always produce a permanent or even temporary paralysis; that the brain may be affected without implication of the cord, the cerebral cases not being mere coincidences. In the northern hemisphere most of the cases occur between May and October; the one epidemic reported from the southern hemisphere indicates a similar relation to season. The increase and decrease of the disease seems to correspond pretty closely with that of acute encephalitis in children. The seasons in which these epidemics have taken place have usually been hot and dry; this was the case in the epidemic reported by the writer, but there must have been some additional causal factor in this particular locality, as the weather was the same throughout the State. What the germ may be we do not know; Schultze has found the diplococcus of Weichselbaum-Jaeger in fluid from a lumbar puncture. Acute poliomyelitis, as well as cerebral palsy, sometimes follows measles and the other infectious diseases, but we do not yet know whether the organism of the original disease may produce the sequelæ or whether there are two distinct infections.

Why and How the Eyes of Children in the Public Schools should be examined.

LUCIEN HOWE (*Buffalo Med. Jour.*, February, 1899) records, as the result of an examination of 1003 pupils in the public schools of Buffalo in 1876, that of those in the primary classes a very small percentage was found to be nearsighted, this percentage increasing with the advance in grade, until of the graduates from the High School 19.7 per cent. were found to be affected with myopia or other defective vision; that is, nearly all this increase could be laid to defective school-furniture and bad light.

The first and most important danger of school-life to vision is the production of nearsightedness. It is supposed to be produced generally by hydrostatic pressure, the blood being pumped into the arteries of the eye as the person bends forward, while the return circulation is retarded by the force of gravity, by the head being bent forward, or secondarily by compression of the veins of the neck. The reason for the pupil's stooping is: (a) An ill-adjusted seat and desk. The desk should be at a suitable distance from the seat, and the height of the seat should be about the same as that of the pupil's knee. (b) Imperfect light, making it necessary to approximate the head to the book. (c) Light from the wrong direction. The second danger is the increase of any existing imperfection in vision; thus, the strain of school-life may greatly aggravate astigmatism, amblyopia from strabismus, etc. The third danger is the propagation of contagious diseases of the eye.

It is, therefore, evident that examinations of the eyes of pupils should be made frequently, at last once a year. The writer thinks that this should be done by some teacher rather than by a physician, and should be as simple as possible in method; it should be rapid, and should demand comparatively little knowledge on the part of the teacher. The State Board of Health (New York) has issued a list of instructions for teachers, telling them how to use the Snellen test-types and record the vision in the usual fractional form. (This record may be of great value for future comparison.) If slight imperfections be discovered, the teacher will take suitable precautions regarding the child's position, the light, etc. If vision be markedly imperfect, the parents should be notified and advised to consult a physician.

Pyloric Stenosis in a Boy Eight and One-Half Years Old; Gastrojejunostomy; Recovery.

A. H. FERGUSON (*Chicago Med. Rec.*, January, 1899) reports the

case of a boy, eight and a half years old and weighing but forty-one pounds, who complained of vomiting for four years; usually emesis occurred after meals and at midnight, and was not accompanied by either pain or nausea; at first the vomitus consisted of food; later of mucus and more fluid than was ingested; there was never any bile or chyme, but on two occasions blood, or what appeared to be blood. The quantity varied, but in the last three months of illness, when vomiting occurred only once or twice in the twenty-four hours, it was usually about two quarts. For two years there had been constant and almost ravenous hunger, especially after vomiting; sometimes food would be ejected immediately, at other times retained for a considerable period, with eructations of foul gas. For eleven days before the operation apparently no food passed from the stomach into the intestine. Constipation was constant, increasing toward the end of the illness. The abdomen over the stomach was often bloated, and very prominent, the rest of the abdomen never so. The child's nutrition and general condition were, of course, very bad, but it was only in the last few months that they had deteriorated rapidly. The only possible ætiological factors that could be discovered were a fall upon a picket-fence, in which the patient struck the epigastric region, and another instance, in which his father, while carrying him, tripped and fell upon the patient's abdomen. In neither case did the injury appear more than trifling. Examination showed very thin abdominal walls, through which the peristaltic movements of the stomach could be watched. A firm, hard mass could be felt at the pylorus, movable to a limited degree, and without tenderness; there was no doubt of its being the pylorus. An exploratory incision was made and the tumor exposed, when it was found to be oval in shape, its longest diameter, about two inches, being in line with the bowel; it was smooth, with a firm, fleshy feel, and slightly movable; the peritonæum over it was not adherent; liquid could not be forced from the stomach into the duodenum. The tumor had the appearance and feel of a sarcoma. Pylorotomy was not considered safe, and pyloroplasty was impossible; gastrojejunostomy was, therefore, performed in the usual manner, a loop of the jejunum about ten inches from its origin being fastened to the anterior surface of the stomach. After the operation liquid food was given freely by the mouth for three days, when semi-solid food. Vomiting had ceased entirely. The wound apparently united well, the stitches were removed on the ninth day; a few hours later the wound was found open, with six inches of small bowel protruding from it; this was replaced and the wound resutured. The farther recover was rapid and uneventful; the patient has now gained

twenty-one and one-half pounds, eats, sleeps, and acts normally, with no gastro-intestinal disturbances whatever. The mass in the pyloric region grew smaller and smaller, and now cannot be felt. Evidently the tumor was innocent, and the secondary operation of pylorotomy, which the writer had contemplated, is unnecessary.

Common Contagious Diseases of the Skin, as met with in School-Children, and how to prevent Them.

T. C. GILCHRIST (*Georgia Jour. of Med. and Surg.*, January, 1899) urges the significance of the common contagious skin diseases of childhood, and the importance of isolating the subjects of such diseases, particularly by their exclusion from school. He particularly refers to ringworm, pediculosis, impetigo contagiosa, fævus, and scabies, but the remarks about ringworm are of the most importance. This disease is easy enough to diagnose in the common form; but by no means uncommon is a variety characterized by a scaly condition of the scalp in patches, though no circular areas may be found; examination of these patches will usually reveal a few stumpy hairs, and the diagnosis can be then confirmed by soaking these hairs in liquor potassæ and examining them for spores. This form is particularly common in colored children. In chronic or disseminated ringworm the hair will grow to some length over the diseased areas, but an occasional broken hair and spores may be found, while the part of the scalp involved may show slight scaling. Another rare variety of ringworm is the tinea kerion, in which cocci have also invaded the tissues, and the patch is boggy, raised, deep-red, and contains many suppurating points, with diseased hairs in their centers. Instead of scaly patches we may have bald areas, with the stumpy hairs at their margins; and we may say that a bald patch on a child's head is generally ringworm. The disease is exceedingly prone to become epidemic, and no child having any of its forms should be permitted to attend school, the great breeding-place of such diseases. The chronic forms are very obstinate; out of seventy-two children treated for seven months at the New York Skin and Cancer Hospital only twenty-five were cured. Cases should not be considered cured till a thorough examination has been made, without finding stumpy hairs once a week for three weeks after all treatment has been stopped.

A Case of Congenital Occlusion in the Duodenum with Axial Twisting and Fibrous Peritonitis, associated with Calcareous Masses and Peculiar Giant-Cell-like Bodies.

J. L. STEWART (*Medicine*, December, 1899) enumerates and discusses some of the causes assigned for congenital occlusion of the intestinal canal; the site of the occlusion is said to depend largely on the fact that the canal is developed in sections, and the immediate cause is variously assigned to amniotic bands, ulcer, diverticula, embolism of the mesenteric artery, intra-uterine peritonitis, axial twist, and inguinal hernia. The clinical histories are those of intestinal obstruction, and the infants generally live from one to six days. In an otherwise well-formed child, recourse should be had to surgical intervention, in the hope that the conditions may be simple enough to permit the restoration of the lumen of the intestine.

The case reported was an apparently healthy child at birth; he soon began to vomit, at first a dark-colored fluid; later, thicker matter of a dark-green color; the vomiting continued for four days; there were no bowel movements. Laparotomy was then performed, a dilated portion of the gut opened, and stitched to the margins of the abdominal opening. The child rallied from the operation and ceased to vomit, but died in about twelve hours. A specimen, consisting of the stomach, large and small intestines, some torn adhesions, and a part of the mesentery was sent to the writer. The stomach and pylorus were normal, but the duodenum, at a distance of six centimetres from the pylorus, became dilated to a diameter of three centimetres; this dilatation continued for a distance of thirty centimetres and ended abruptly in a blind extremity, near which the artificial opening had been made. About an inch from this blind extremity, and separated from it by a free edge of mesentery, was the beginning blind end of the lower segment of the bowel. The jejunum and ileum were 110 centimetres long and one centimetre in diameter, the appendix five centimetres long and two millimetres in diameter; the cæcum was only slightly larger than the appendix, and the large intestine was only four millimetres in diameter, its length being forty-five centimetres. The intestinal walls above the occlusion were somewhat thickened, the lumen containing a dark-green grumous material; below, the walls were thin, and the contents a yellowish-gray, mucoid matter. The ends of the two segments had twisted around each other, as if the end of the jejunum had projected upward and to the left, while the end of the duodenum had wound

itself about the first ten centimetres of the jejunum from below upwards. There was also a twisting of the mesentery; it was not divided, but there was a shallow cleft between the two ends of the gut. The intestines were universally bound together by firm, fibrous adhesions, and the lymphatic glands were everywhere enlarged. Microscopic sections of the large and small intestines showed a well-preserved serous coat, but the mucous membrane was replaced by a peculiar mucoid material in the form of a quite regular network. Between the layers of the mesentery were irregular masses of gritty, calcareous material, and among these small brownish-green granules, probably hæmatogenous or bile pigment. Between the layers of mesentery and among the calcareous masses were seen a number of peculiar, irregular, circular bodies which contained in their interiors a number of smaller dark bodies that resembled nuclei; it was thought that these might be old and degenerated giant cells. Sections of the mesentery were stained for the tubercle bacillus, but none were found.

Both the foetal peritonitis and the twisting of the intestinal ends would seem to have bearing on the ultimate cause of the occlusion. From the findings in the mesentery we might suspect a healed foetal tuberculous peritonitis, but the nature of the process cannot be decided without finding the tubercle bacillus. The peritonitis may have been primary or secondary to the cause of the occlusion; we may assume that axial twisting occurred, followed by occlusion and peritonitis. Perhaps mechanical or other stenosis of a branch of the mesenteric artery produced necrosis and perforation of the intestine at the seat of the present gap, the fibrous peritonitis and calcareous and other bodies being the result of the extravasation of the intestinal contents; but the defect in such a case must have occurred at so early a period of development as to render the latter view rather improbable.

GREAT BRITAIN.

A Case of Indurative Mediastino-Pericarditis in a Young Infant.

J. BLUMFELD (*Lancet*, December 31, 1898) reports the case of a male infant, fifteen months old, who was admitted to hospital October 1st, with a history of bronchitis during the previous August, and of swelling of the face and legs in September. The child was pale and cried a good deal, but did not seem to be in pain; the T. P. R. was 99—80—20. Examination of the chest showed that the cardiac area was enlarged upwards on the left side to the upper border of the second intercostal space; it also extended beyond the mid-line of the sternum,

except over the manubrium. The feet and legs felt cold and pitted slightly on pressure. Otherwise there was absolutely nothing abnormal. The urine was acid, clear, without albumen; sp. gr., 1015. Except for occasional blueness of the lips and ears, the patient's condition remain unchanged till November 3d; there was then an obvious amount of fluid in the abdomen, the arms and legs were cold and blue; there was considerable œdema of the legs, and some distention of the veins of the neck. On the 10th the edge of the liver was palpable $2\frac{1}{4}$ inches below the costal arch, and there was extreme ascites, with œdema of the abdominal wall; the urine contained phosphates and one-eighth albumen. On the 30th there was much diarrhœa, and the patient died December 2d, with the symptoms of cardiac dilatation.

On post-mortem, the mediastinal tissues were found greatly thickened and adherent, the mediastinal glands enlarged, and with foci of caseation. The left lung was adherent to the chest wall at the apex and over part of the lower lobe behind. The pericardium was three-quarters of an inch thick, fibrous, everywhere adherent to the heart, the fibrous tissue spreading upward around the great vessels; it was firmly united to the thickened anterior and posterior mediastinal tissues, and adherent to, but separable from, the left pleura. The ventricles of the heart were dilated and hypertrophied, but the valves were healthy. No evidence of tubercle could be found in the pericardium. The abdomen contained four pints of fluid; the liver was large, "nutmeg," and fatty, while the kidneys and spleen showed changes due to venous engorgement. The above case probably represents the earliest age at which this affection has been known to be present. Cases of this class called indurative mediastino-pericarditis by Kussmaul, are exceedingly puzzling as to ætiology. There is no evidence of tubercle, no history of anything that could be regarded as an acute pericarditis; while if they were rheumatic in origin, we should certainly expect to find some endocardial affection, especially in children.

CANADA.

The Radical Cure of Encephalocele.

FREDERICK WINNETT (*Canad. Jour. of Med. and Surg.*, February, 1899) reports the following case: The infant at birth presented a tumor at the lower part of the occipital region, which, at the age of two months, had increased to twice its original size; it was somewhat pedunculated, measuring $6\frac{1}{2}$ inches at its base and $8\frac{1}{2}$ at its largest

part in circumference. It was fluctuant, slightly translucent, could be partly emptied, and contained in its center a small, hard body leading to its base; the skull opening was small and indistinct. On operation the skin was found adherent to the membranes; the neck of the sac, being cleared, was found to be about three-quarters of an inch in diameter; it was ligated, the flaps sutured, and the wound dressed in the usual way. Examination of the tumor showed it to contain the entire cerebellum, with the vermiform process, also considerable fluid; the cerebellum was atrophied and weighed 26 grains. Recovery was complete, the child's health is perfect, and there are no signs of incoordination.

OBSTETRICS.

UNITED STATES.

Symphysiotomy on a Dwarf.

H. McKENNAN (*Obstetrics*, January, 1899) reports a case which is interesting because of the remarkably small size of the woman as compared with her husband. The patient was 30 years old, height 45 inches, weight 50 pounds. Her husband was 5 feet 10 inches in height. As the patient approached the end of her pregnancy it was hoped that a normal delivery might be accomplished by nature, as the abdominal distention seemed in about the right proportion to her size. Labor began at 1 A.M. and progressed vigorously until the os was completely dilated, but the head would not engage in the superior strait. Forceps were cautiously applied, but failed. At 6 A.M. symphysiotomy was performed, and a healthy, well-formed child, weighing 4½ pounds, was delivered with some difficulty, owing to the short curvature of the pelvic axis. During the passage of the head the pubic bones separated about two inches. At the end of the fourth week the patient was allowed to get up. There was a slight mobility of the symphysis, but the union became firmer as time passed on. It is now only three months since the operation, so that the ultimate result cannot be stated.

Symphysiotomy: Joint Apposition by Sling from the Ceiling.

ROBERT L. DICKINSON (*Ibid.*) says that the after-treatment of symphysiotomy cases in a tenement-house requires much patience and

time. As the attendants are unskilled, any device for keeping up pressure on the sides of the pelvis must be in a sense self-regulating. Rubber straps slip, stretch, and irritate the skin. Laced canvas-belts must be made to order for the very fat or the very thin, and they soon become soiled. Dr. Ayers's ingenious bed can only be owned by the specialist. The author's trough-bed, made by laying two stiff bolsters along the edges of the bed, so that the pressure comes against the trochanters and iliac crests, is a simple and effective device if watched. The binder, inclosing both bolsters and patient, holds the three in fairly stable relative position. But the device does not apply quite enough pressure, nor is it easily regulated. An ordinary hospital-stretcher serves well for one of these trough-beds. A hole can be cut to give access to the vulvar and anal regions. But a simpler device, costing little or nothing, and bringing power to bear more easily, and with less irksomeness to the patient than any of the others, is the ceiling-sling. In the trough-bed, the lateral inclined planes on which the weight of the lower part of the trunk bears, press the innominate bones inward. More pressure, however, can be exerted, and with less discomfort to the patient, by hanging her up in her own binder, somewhat as a horse is slung when taken on-board-ship. The binder, in its ordinary position, is rather slack, and fastened with strong safety-pins. Beneath it, lengthwise of the patient, is slipped a stout cane or stick. To one projecting end is tied a piece of stout rope. This rope runs over a large hook screwed into a ceiling-beam, then down to the other end of the stick. The amount of pressure and elevation can be easily and quickly regulated by this simple means. The woman's pelvis swings just clear of the bed. To change the bed-linen beneath, or to pass in the bed-pan, the rope is easily shortened by a nurse of average strength without any jarring of the patient. The patient for whom it was used said it was much cooler and more comfortable than the trough-bed or the stretcher. A great advantage lies in the ease with which the vulvar and anal regions can be reached without any removal of the lateral pressure.

Veratrum Viride in Puerperal Eclampsia.

H. R. COSTON (*Virginia Med. Semi-Monthly*, January 13, 1899) says that puerperal eclampsia is the most trying complication that meets the obstetrician, but believes that in *veratrum viride* the profession possesses a remedy neither dangerous nor uncertain in its action, and one that has direct anti-eclamptic properties. Whatever may be the excit-

ing cause of eclampsia, it kills by collapse of the nervous centers. *Veratrum viride* stimulates the vagus center, as is shown by the lower and fuller pulse and more regular breathing. It is better to use this remedy (in 10 to 20-drop doses) hypodermically (every 30 minutes), using the pulse as a guide, never allowing the pulse to rise above 60 a minute until coma passes entirely away. The profuse sweating produced by the drug relieves the kidneys of much work. In regard to the assertion made by some that the remedy is dangerous, it is said by Shoemaker that an ounce of the tincture has been swallowed without fatal results, and the writer has used two drachms in less than twelve hours.

In support of the efficacy of this drug, the history of seven cases of puerperal eclampsia is given. Five were ante-partum cases; two post-partum; six of the mothers were primiparæ. All recovered under the use of *veratrum viride*. All the children born lived but one, who died a few hours after delivery, due probably to rapid instrumental delivery through poor-dilated soft part.

A Case of Sudden Death in Labor.

W. P. HAZEN (*Ibid.*, January 27, 1899) reports the case of a patient, twenty-eight years old, a strong, healthy woman, who had borne one child previous to this confinement. During this pregnancy the patient's health had been very good, except very slight œdema of the feet and ankles. Repeated examinations of the urine revealed only a faint trace of albumin, not enough to indicate kidney-trouble. Labor began about 8 P.M., and everything progressed in a perfectly normal manner, the os being well dilated and the membranes ruptured about midnight. The patient was very calm and cheerful, but during the latter part of the labor she was somewhat annoyed by a slight, dry cough, apparently of nervous origin, which increased in severity and frequency. At 1 A.M. the head was on the perinæum, and the use of forceps was advised to save further suffering, but the patient preferred to wait for a natural delivery. Suddenly she had a severe spasm of coughing, expectorated a small amount of frothy mucus, tinged with blood, said in a calm voice, "I believe that I am dying," and fell back instantly on her pillow, dead. The child was delivered dead.

No post-mortem could be obtained, and the only fact that threw any light on the cause of her death was a history of inflammatory rheumatism when she was a young girl. But the writer had been her physician for seven years, and had found her a perfectly healthy

woman. The lack of medical literature relating to sudden deaths in labor is remarkable. No drugs had been given, and, in the writer's opinion, death was probably due to œdema of the lungs.

Two Cases of Rupture of the Uterus.

FRANCIS D. KENDALL (*Ibid.*) was called in haste by a midwife to attend a colored woman in labor. On his arrival he found the patient dead, but the body was still warm, and the movements of the child could be felt. It was decided to open the abdomen to save the child, if possible. As soon as the abdomen was opened, the child was seen, entirely out of the uterus, which was ruptured the entire length on the left side. On the right side there was an intra-mural fibroid tumor, which, with the uterus, weighed fourteen and a half pounds. The child died soon after delivery. The woman had borne six children before this.

A second case was seen under almost identical circumstances. The patient, a finely formed woman of eighteen, was dying when the writer arrived. As soon as she was dead the abdomen was opened. The uterus was ruptured on the left side, but the placenta was intact, and the cord pulsating feebly. A strong, ten-pound boy was kicking vigorously, partly out of the uterus. He was quickly extracted, and lived. This was the woman's first pregnancy.

Hysterectomy for Puerperal Sepsis.

J. RIDDLE GOFFE (*Medical News*, January 28, 1899) says that the serious question of the proper place, or even the propriety of hysterectomy, for puerperal sepsis, has yet to be determined. There is no affection where it is more difficult to lay down general principles of action. Two definite forms of puerperal sepsis are recognized, sapremia and septicemia. The former is the result of the absorption of toxins or ptomaines secreted by germs growing upon a putrefactive focus. These toxins are the product of the less virulent form of bacteria, the progress of the disease depending largely upon the resistant power of the patient. Such cases are characterized by a chill and sharp rise of temperature early in their history, and by an offensive lochial discharge. Such patients should be promptly subjected to curettage and thorough antiseptic douches. Free drainage of the lymph-vessels and spaces must be maintained by the open-bowel treatment, and the most stimulating nourishment and sustaining treatment must be used.

Great reliance could be placed on the use of alcoholics, together with strychnine, strophanthus, and small doses of quinine, as may be indicated. If the symptoms are not arrested by this line of treatment, if there are signs of constant infection, as indicated by a steady rise of temperature, languor, tenderness over the uterus and broad ligaments, or chills with rise of temperature, the question of radical interference by an exploratory laparotomy suggests itself. Where there is positive evidence of the presence of pus, an operation is indicated, provided the patient's condition will justify it.

If, on the other hand, the infection is that of the pure streptococcus, the curette has no place. It would simply break down the resisting zone, and open the way for ready entrance of the bacteria, and in the more serious cases it cannot possibly do any good at the period of recognition of the disease, for the invasion has already passed beyond its reach. The nature of the treatment must be such as to assist the resisting power of the uterus, and reinforce the phagocytic fight which is being made against the invasion of bacteria. The German pathologist, Bumm, has found that under favorable conditions an inflammatory exudate forms about the seat of invasion, and, aided by the phagocytic action of the white corpuscles, prevents penetration of bacteria to adjacent tissues. Thus the process is limited to the circumscribed area. But in more severe infection, or with less resisting powers of the tissues, the bacteria break down the protective zone, enter the lymphatics and veins, by which not only the toxins, but the micro-organisms themselves, are disseminated throughout the entire system.

Mixed infection sometimes occurs. Under these circumstances the saprophytic action must be controlled by promptly removing all necrotic tissue which may be in the genital tract, thus stopping the absorption of ptomaines, at the same time fighting the streptococcic infection by nourishment and stimulants.

The history of a case admitted to the Polyclinic Hospital five weeks after her confinement is given at length. The patient had suffered from hæmorrhage previous to the birth of the child, which was still-born after a difficult breech labor. Following the delivery there had been more or less bloody discharge, accompanied by large black clots of blood. She had had rigors, sweats, and fever since the third day after delivery. Treatment had consisted of poultices, vaginal douches, and morphine. Examination showed a foul-smelling discharge from the uterus, the abdomen distended and painful, the cervix patulous and boggy, fundus much enlarged and firmly fixed in the pelvis by an inflammatory mass reaching to the right iliac fossa. Temperature 101.8° and pulse 100.

Curettage was performed, removing some necrotic tissue. A diagnosis of metritis, with probable abscess of the right broad ligament, was made, and an abdominal hysterectomy was performed. The uterus and broad ligaments were removed en masse. The walls of the uterus were permeated with accumulations of pus of varying quantities. Both ovaries and tubes contained pus. The patient rallied from the operation, and her general condition improved somewhat, the temperature fluctuating from 100° to 103° until it became normal on the eighteenth day. On the following day it rose to 105° after a slight chill, and there were signs of lobular pneumonia, which was considered septic in its nature. This gradually disappeared, but in spite of the most careful nursing the patient died from exhaustion on the thirty-sixth day after the operation. The question presents itself: Was the fatal result due to the delay in the radical operation, and, on the other hand, what measures, if any, might have been used to prevent the case reaching the condition where radical procedure was necessary?

*Full-Term Pregnancy and Two-Months' Abortion in the Same Woman
with Two-Days' Interval.*

EDWIN WILLIAMS (*Memphis Lancet*, February, 1899) reports a case of primipara, admitted to the Lying-In Hospital in New York at 6 A.M. Upon examination the os was found to be partially dilated and the membranes unruptured. Labor progressed normally, and she was delivered at 3 in the afternoon of a healthy child. No forceps were used. The placenta was expressed thirty-five minutes later by the Credé method.

Forty-seven hours later the patient had a slight chill, followed by a pulse of 106, a temperature of 100.5° , and severe cramping pains in the uterus. The pulse-rate rose slowly, and it was decided to curette. Chloroform was administered, and a bimanual examination made to test the bogginess of the uterus. On removing the hand from the vagina, a crushed two-months' fœtus followed it, to the astonishment of all present. A bivalve-speculum was introduced, and as soon as a dilator and sound were placed in the cervix it was found that the uterus was divided into two unequal parts by a septum about $\frac{1}{10}$ of an inch in thickness, running from the internal os to the fundus. Each tube and ovary communicated with one side of the uterus only. The large cavity occupied about four-fifths of the uterine anterior. An intra-uterine douche was given in both cavities, bringing away nothing but a

few clots. The pulse and temperature became normal, and convalescence was uneventful.

Evidently the right side of the uterus was fecundated, and went on to term, and the left side became impregnated two months before delivery. The muscular contractions of the uterus at the times of labor had evidently crushed the two-months' foetus. But it is not easy to say why the foetus was not delivered at the same time as the full-term child.

Post-Puerperal Psotitis.

WALTER C. WOOD (*Annals of Surgery*, February, 1899) says that this variety of septic infection occurs rather late after confinement, and may not be apparently very closely linked to that event by continuous septic symptoms. Dakin, of London, says that extension of infection may take place from the broad ligament to the connective tissue about the psoas muscle, and even along that muscle to the perinephric fat. As these cases have an insidious onset, and also present an abdominal tumor, they often come to the general surgeon for diagnosis and treatment. The literature of the subject is chiefly in French, but the writer adds the histories of two cases that came under his observation. The first case was a young woman who had been in excellent health until her first confinement, which took place twenty-two days before her admission to the hospital. There was no history of injury or accident. The labor was prolonged and difficult, terminated by the use of forceps. There was no abnormal discharge or pelvic peritonitis. At the end of the first week pain began in the left side of the abdomen, and the left thigh became drawn up. She received malarial treatment the first week, rheumatic treatment the second, while during the third week the question of hip-joint inflammation was raised. On entering the hospital the patient was thin and weak. The heart and lungs were normal, the abdomen relaxed and free from tenderness, except at the junction of the left lumbar and umbilical regions at the level of the iliac crest. Here was a deep-seated, hard, immovable tumor, about five inches long and two or three inches broad. It could not be felt per vaginam. The extension of the left thigh was limited to 130 degrees. There was no evidence of spinal osteitis. During the four days she was kept under observation her temperature ranged from 100° to 103°. A diagnosis of psoas abscess, or an intraperitoneal inflammatory mass in contact with the psoas muscle, was made. An incision was made along the outer side of the left rectus muscle, directly over the tumor. A retro-

peritonæal fluid mass was discovered, from which four ounces of pus were obtained, and a necrotic cavity in the psoas muscle demonstrated. The wound was drained, and the patient recovered, with no limp, and no indication of spinal disease.

The second case was also a primipara, delivered by the high-forceps operation. Septic symptoms developed the second week, and on the twentieth day she became delirious. Curettage was performed, without satisfactory results, the temperature remaining at 105° . Dr. MacNamee then took charge of the case, doing a second curetting, and removing a handful of necrotic tissue. Antiseptic irrigations were used, and the temperature dropped to 100° . This persisted, however, and finally rose to 103° a month after the curetting. She complained of pain in the back, inability to extend the right thigh, and local tenderness in the region of the right kidney. These last symptoms did not develop until the seventh week after delivery. At this time she was seen in consultation by the writer, and sent into the Brooklyn Hospital for an operation for acute psoitis. The operation proved the diagnosis to have been correct, and recovery was perfect after a somewhat tedious convalescence.

Dr. Robert Dickinson reports two cases, one following tubal pregnancy. Professor Villeneuve reports a case admitted to the hospital four months after delivery. She was in an advanced stage of general sepsis, and did not recover. The autopsy showed that the psoas iliacus muscle, in its entire extent, was a putrid mass infiltrated with pus. There was no peritonæal lesion. The writer regrets that no bacteriologic data can be offered; but from the clinical standpoint, it would seem that the streptococcus was not the cause of these abscesses, on account of the subacute course of the inflammatory process. There are two theories as to their ætiology; one, that a rupture of muscle fibres has occurred, with a hæmatoma and secondary indirect infection at this point of lowered resistance; the other, a direct infection of the cellular tissue around the muscle by way of the lymphatics.

The lymphatics of the lower segment of the uterus, with those of the vagina, descend and pass backward to enter the internal iliac lymphatics, which connect with the mesial group of lumbar glands. This group is intimately connected with the lateral lumbar glands lying behind the psoas muscle, and between the slips of muscle arising from the transverse processes of the lumbar vertebræ. The lymphatics from the upper part of the uterus proceed outward in the broad ligament and, following the ovarian vessels, empty into the mesial group of lumbar glands. Thus an infected tear of the vagina alone, or of the

cervix, may directly infect the cellular tissue about the psoas muscle without any intervening metritis. The diagnosis is not so difficult when the possibility of acute psoitis is remembered. Septic symptoms following a recent delivery naturally suggest a pelvic examination; if this prove negative, then examine the whole abdomen instead of assuming a constitutional disease. Local pain and swelling on one side, together with a flexed thigh, will mean a retroperitonæal lesion. Perinephritic abscess may be excluded by its presenting more toward the loin. A suppurative process in the fat around the kidney gives a brawny feeling and often redness of the skin.

It is more important to exclude the tubercular abscess arising from spinal caries, for the prognosis as well as the treatment should be different. It is not well to incise a psoas abscess complicating spinal caries, on account of the danger of mixed infection. The physical signs differ. Acute psoitis is tender, while a collection of tubercular *débris* is painless until infected with pus organisms. A careful examination of the spine is necessary, for the osteitis precedes by many months the collection in the psoas sheath. This osteitis manifests itself by muscular rigidity giving the characteristic attitude, early fatigue, and pain referred to the peripheral ends of the corresponding nerves, and so described as felt in the abdomen, chest, and limbs.

The variety of appendicitis which produces a lumbar phlegmon must also be excluded. Appendicitis has recently been recognized as being a cause of puerperal sepsis to an extent not hitherto imagined.

As to treatment, the best place and manner of incision and drainage must be determined by the operator.

Symptomatology of Puerperal Fever.

T. W. SHEARER (*Annals of Gyn. and Pæd.*, February, 1899) says that prodromal symptoms are oftener present when eclampsia occurs during the course of pregnancy than at the time of labor. Prominent among these are frontal headache, defective vision, or even blindness, dyspnœa, and epigastric pain. Insomnia sometimes precedes an attack of eclampsia. Albuminuria is the most important, as well as the most common symptom. Not every case of albuminuria results in eclampsia, and it is probable that cases of eclampsia occur without albuminuria. The writer is, however, strongly of the opinion that albuminuria would eventually be symptomatic of all cases of puerperal eclampsia, should the causal relations exist long enough to injure the parenchyma of the kidneys. The fact that the parenchymatous struc-

ture of the kidneys is strong enough to resist the escape of albumen or blood cells, does not prove that the blood may not be surcharged with urea and other products of nitrogous metabolism, which are capable of producing the phenomena attending puerperal eclampsia. The symptoms may be premonitory for some weeks or months, or may be present for only a few hours; in some cases the convulsion is the first warning.

The Use of Sugar of Milk to hasten Labor or to facilitate the Expulsion of Retained Miscarriage.

AN EDITORIAL (*Ibid.*) says that in a recent issue of the *Revue Obstétricale Internationale* was a paper by Dr. Klein on the above subject.

Much attention has been given of late years to the value of foods containing sugar as stimulants of the muscular fibers. A decrease in the fatigue of muscles, or an increase in the activity of their contractions has been obtained by increasing the amount of sugar in the blood. Bossi has shown the influence of sugar on the force of uterine contractions during labor.

Klein studied the effect of sugar of milk on ten women in labor, and found that in all the cases weak or slow uterine contractions were influenced by lactose, but that it was only of value after labor had begun. This fact corresponds to the results of Chaureau's experiments, in which sugar was shown to act on the muscle only after work, or when a part of the glycogene of the muscle had been consumed. The smallest efficient dose was found, after repeated trials, to be from twenty to twenty-five grammes. Smaller doses had to be repeated, and larger doses did not seem to have any better effect on the uterus. Masse and Paoletti consider the repetition of small doses more efficient than the use of one large one at the beginning.

The action of lactose began more rapidly where labor was well advanced, and in cases where there had been previous labors. Contractions began in from ten to fifty minutes after the dose of lactose, but in cases where the cervix was not dilated two hours elapsed before any effect was noted. Lactose had no influence upon the delivery of the placenta, nor did it produce contractions of the empty uterus in the cases observed. The small doses given did not have any effect on post-partum diuresis or on the secretion of milk.

The single case of incomplete abortion in which lactose was used showed the usefulness of the drug. In less than an hour the closed cervix dilated and the placenta was expelled, but the action ceased then,

showing that the presence of some body in the uterus was necessary to get the therapeutic effect of the drug. It might be useful in a case of incomplete abortion to determine whether or not the uterus was empty, as in the latter case no uterine contractions would result.

GREAT BRITAIN.

Tumor of the Uterus complicated by Twin Pregnancy.

E. R. C. EARLE (*The Lancet*, January 14, 1899) reports a case of a colored woman attended by him in Jamaica. When brought into the hospital she had been in labor thirty-six hours, but no progress had been made. A large, elastic, fixed tumor was found occupying the pelvic brim. There was a space of about an inch between the anterior surface of the tumor and the symphysis. When the patient was standing the os could not be reached, and the abdomen was greatly distended. When in a recumbent position the os could be felt on a level with the upper border of the symphysis. Cæsarean section was decided upon, and performed at once. After the incision in the abdominal wall was made, the uterus was brought forward and fixed in the wound. An incision four and a half inches long was made in the anterior wall of the uterus. The membranes were ruptured, and two living male children were extracted, with two distinct placentæ. It was then found that there was a large fibroid tumor of the body of the uterus, involving the whole posterior surface. It was about 9 inches long, 7 inches in width, and 5½ inches antero-posteriorly. There was another fibroid on the left of the uterus, about the size of an apple. The uterine wound was closed by silk sutures, and the abdominal wound closed without a drainage-tube, and dressings applied.

The lochia remained normal, and she never had any symptoms to be referred to the womb itself. The abdominal wound healed with no trouble, except a slight amount of pus in two stitches; after these were removed and the wound strapped, union was soon perfect. But there was a persistent temperature, due to severe congestion of both lungs, which lasted for several days. On the ninth day there was indistinctness of speech, and loss of power of motion on the left side; this, however, was only noticeable for about twenty-four hours. Three weeks after the operation the temperature and pulse were normal, and a week later she left the hospital well.

An interesting feature in the case was the rapid diminution in size

of the fibroid tumor after the operation. At the time she left the hospital the tumor was only about one-third its original size.

CANADA.

Management of Difficult Breech Labors.

A. H. WRIGHT (*Canad. Pract. and Rev.*, January, 1889) estimates that want of skill in the management of breech labors sometimes results in an excess of 20 per cent. in the mortality of the children over what it should be. He outlines a definite plan of action in such cases, apologizing for its somewhat dogmatic character, on the score of brevity. The patient should be placed across the bed in the lithotomy position, in multiparæ as soon as the breech enters the vagina, in primiparæ when it is on the point of delivery. The physician should bare both arms to the shoulder, and cleanse hands and arms thoroughly, so as to be prepared to pass either hand into the vagina or uterus as promptly as possible. Traction on the child should be avoided, if possible, lest extension of the arms or of the head itself be caused; the nurse should be instructed beforehand how to press on the fundus uteri. If the breech does not descend into the pelvis within an hour or two after full dilatation of the os, traction must be resorted to. It is better to anæsthetize the patient before all the liquor amnii has escaped. Support the fundus, pass the hand towards the child's abdomen, and seize the anterior foot if possible. If the legs are extended, push the knee outward, reach up and seize the instep or foot, carry it to the other side, and bring it down. Even if interference become necessary after the breech has descended into the pelvis, it is better to pass up the hand under full anæsthesia, and bring down a foot. Traction with the index-finger or a soft fillet is sometimes sufficient, but the use of the blunt hook is dangerous, and the forceps both dangerous and useless. When the child is born as far as the umbilicus, pull down a loop of the cord, but do not waste time trying to guide it to any particular part of the pelvis; wrap the exposed part of the child to prevent respiration being excited by contact with the cold air. When traction has been employed, the arms are generally dragged over the head; when the shoulders appear at the vulva, pass two fingers along the most easily accessible arm to elbow, push it backward and bring it across face to vulva, first elbow, then arm, then hand; bring down the other hand similarly. If the shoulders be arrested at the superior strait, press the body of the child slightly upward, and rotate it sufficiently to bring the back to one or

the other side of the mother's pelvis; elevate the hips slightly with moderate traction, and try to liberate the posterior arm. Use the hand that faces the child's abdomen, introduce two fingers to the elbow, draw the arm across the face, and then downward. Then draw hips downward and make traction in order to furnish room for the head and other arm to emerge; if this fail, push the child back into the pelvis and rotate the body so that the once anterior arm now becomes posterior, and proceed as before. If the child's thorax be pushed up in such a way as to free the head from the superior strait, there is no danger of dislocating the neck. Rarely the arm is bent so that the forearm lies behind the neck; in this case place child's body downward, pass fingers along the back behind the symphysis, seize the elbow, and sweep the arm forward and over the face. Or rotate the body in the opposite direction to that which caused the displacement. It may be necessary to fracture the arm.

In no case must the head be permitted to remain longer than actually necessary in the vagina; the writer employs the following measures in the order named. First, the Prague method, which is usually successful. If this fail, or a great deal of force be required, the Veit-Smellie method, by which traction is applied to both jaw and shoulder. Matthew Duncan has demonstrated that fifty-six pounds traction may be applied in some cases to the lower jaw. If there be reason to fear overstraining the lower jaw, we may modify the above by applying the pressure over the superior maxillary bones, pulling the face downward, while the other hand pushes the occiput toward the hollow of the sacrum; if by this means we can help flexion, we may then revert to the second method. As we pull, the pressure of the pelvic brim makes the vertex more pointed, and for this reason it is sometimes better to remove the pressure on the fundus after a time. If all these measures fail, we may extract with forceps; the Smellie method has rendered their application necessary much less frequently than formerly, but it is well to have them ready. The axis-traction variety is best. Finally, if the forceps fail, and the child be dead, we should use the perforator; but this is seldom necessary, unless there be some deformity of the head, especially hydrocephalus.

GYNÆCOLOGY.

UNITED STATES.

What is the Proper Field of Salpingo-oöphorectomy?

C. D. PALMER (*Cincinnati Lancet-Clinic*, January, 1899) concludes an interesting paper on this subject as follows: After all abdominal sections for supposed diseases of the uterine appendages, we should carefully lift up these parts, after enucleation if needed, and thoroughly inspect them for macroscopical evidences of disease.

Remove only such parts of these appendages, the ovaries in particular, as may be hopelessly diseased. Disturb not the healthy side unless for good and sufficient reasons.

So consider that slight cystic degeneration or cirrhosis of the ovaries as insufficient grounds for their extirpation.

Bear in mind that ovulation and menstruation, local only in certain manifestations, are systemic always in physiological changes.

True conservatism is the proper attitude of all modern surgery.

It is the highest aim of all we do to consider, to protect, to preserve and to maintain.

Has as much consideration been given to the salvation of the uterine appendages as is devoted to the preservation of their analogous organs of the male?

GREAT BRITAIN.

A Contribution to the Treatment of Pus in the Pelvis

J. FURNEAUX JORDAN (*British Medical Journal*, January 21, 1899) states that until four or five years with the excellent results of Tait and Cullingworth it was thought that their plans of treatment of pus in the certain class of these cases. He believes that the rigidity should be pelvis could not be improved upon. Tait's mortality during the last ten years was 15.6 per cent. The author's mortality in 20 cases was 15 per cent. All these figures refer to cases of pyosalpinx treated by abdominal section. After two deaths by this method the author was impressed with the necessity for improvement in the treatment of a certain class of these cases. He believes that the majority should be removed by abdominal section, but that there are some which do better

by vaginal incision and drainage. He advises the latter method in cases of long duration in which the abscess can be felt filling up Douglas' pouch, in which the patient is exhausted both by pain and prolonged suppuration and suffers from emaciation and night-sweats. The author does not mean tapping by vagina but opening and draining thoroughly.

He quotes six cases operated upon by vaginal incision and drainage with complete cures in all cases.

The technique is very simple—a free opening is made behind the cervix, the sac opened, drained and packed with iodoform gauze. This is followed by daily irrigations and in some cases by light packing. No claim is made for originality in this method and it is not intended to rival the removal of pyosalpinx by the abdominal method but is a valuable auxiliary operation. When the abscesses are low down the vaginal operation is easy. The author reports that it is only in a limited number of cases, in those which may be considered as of the severest kind, having as a rule, a long-standing history of gonorrhœa, that he advises operation by the vaginal route.

A Case of Movable Third Kidney.

W. WATSON CHEYNE (*The Lancet*, January 28, 1899) reports in the following case an independent third kidney.

The patient was 22 years of age. For several months he had suffered from indefinite abdominal pain, indigestion and a general hysterical condition. The special feature in the symptoms was that when the pain was severe there was diminution in the quantity of urine passed. Upon examination a swelling below the umbilicus which was tender and corresponded to the chief seat of the pain.

The patient was then examined under chloroform and an irregular, flattened, tender swelling was felt behind the right rectus muscle at the brim of the pelvis. The swelling was somewhat movable. It could not be felt from the pelvis. The suggestion of movable kidney was discarded on account of the situation and the fact that it could not be pushed into the loin. On opening the abdomen it was found that the tumor was situated behind the peritonæum resting on the right side of the lower lumbar vertebræ and the brim of the pelvis. The peritonæum having been divided over the swelling it presented the appearance of normal-kidney substance. The hand was then passed up into each loin and a kidney found normally situated on each side. These conditions were verified before the abdomen was closed.

ITEMS OF INTEREST.

CONGRÈS PÉRIODIQUE INTERNATIONAL DE GYNÉCOLOGIE ET D'OBSTÉTRIQUE.

3e Section—Amsterdam—Aout 1899.

SECRÉTARIAT, Sarphatistratt 111.

Amsterdam.

We have the honor of soliciting your presence at the 3rd International Congress for Gynæcology and Obstetrics to take place at Amsterdam from the 8th to the 12th of August, 1899, under the patronage of the Minister of the Interior. The leading questions for discussion will be the following: 1st. The surgical treatment of fibro-myoma. 2nd. The relative value of antiseptics and improved technic for the actual results in Gynæcological Surgery. 3rd. The influence of posture on the form and dimensions of the pelvis. 4th. The indication for Cæsarean section compared to that for symphyseotomy, craniotomy and premature induction of labor. We have succeeded in obtaining the valuable concurrence as reporters of MM. Doyen, Howard Kelly and Schauta who will treat the first question; MM. Bumm, Richelot and Lawson Tait the second; MM. Bonnaire, Pinzani and Walcher the third, and MM. Leopold, Pinard, Pestalozza and Fancourt Barnes the fourth. We propose sending the reports with their translations in the official languages to all the members, a month before the opening of the Congress. As regards private communications, preference will be given to those bearing upon the above-mentioned leading questions. Time will also be allowed sufficient for any demonstrations kindly afforded by the members. The official languages are: English, French, German and Italian. We venture to urge our request that you will honor the Congress with your presence and, by communicating your experience, insure scientific results as satisfactory as those obtained by the previous Congresses of Brussels and Geneva. The Committee: H. Treub, President; J. Veit, Vice-President; G. C. Nijhoff, J. P. Barnouw, Treasurer; M. A. Mendes de Leon, Secretary.

NOTE FROM THE TRI-STATE MEDICAL ASSOCIATION : "OSTEOPATHS."

At the regular annual meeting of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, held in Memphis, December 20, 21 and 22, 1899, the following resolutions were adopted :

Whereas, the medical laws of the various States have been so perverted by political influences as to give legislative sanction to grotesque, ignorant and dangerous sects of pretenders and charlatans : and

Whereas, the privileges granted to one of the most outrageous aberrations, namely, the so-called osteopathy, constitute a disgrace to the States in which the "osteopathists" are legally intrenched : and

Whereas, a certain William Smith, osteopathist, having been roundly denounced, together with his sect, by Parke, Davis & Co., and the *Medical Age*, now brings suit against both for \$25,000.00 damages ; therefore,

Be It Declared the sentiment of the Tri-State Medical Association of Mississippi, Arkansas and Tennessee, that Parke, Davis & Co., and the *Medical Age* are entitled to the sympathy of its members and of all medical practitioners ; that we wish and expect them to enjoy a complete triumph in repelling this legal assault ; and that wheresoever a powerful House takes a bold stand in opposition to quackery it promotes the interests of legitimate and honorable medicine and the welfare of humanity.

RICHMOND MCKINNEY,
Secretary.

AMERICAN MEDICAL ASSOCIATION—ANNUAL ANNOUNCEMENT.

Office of the Permanent Secretary,
1400 Pine St., Philadelphia.

The Fiftieth* Annual Session will be held in Columbus, Ohio, on Tuesday, Wednesday, Thursday and Friday, June 6, 7, 8 and 9, commencing on Tuesday, at 11 A.M. "The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and District Medical Societies *as are recognized by representation in their respective State Societies*, and from the Medical Departments of the Army, Navy and Marine-Hospital Service of the United States. Each State, County and District Medical Society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, Territory, County, City or Town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Members by Application.—Members by Application shall consist of such members of the State, County and District Medical Societies entitled to representation in this Association, as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the President and Secretary of the Society of which they are members, and the amount of the annual membership-fee, \$5.00. They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms.

At a recent meeting of this Association the following was unanimously adopted: WHEREAS, the American Medical Association did, at Detroit, in 1892, unanimously resolve to demand of all the medical colleges of the United States the adoption and observance of a standard of requirements of all candidates for the degree of doctor of medicine which should in no manner fall below the minimum standard of the Association of American Medical Colleges; and *whereas*, this demand was sent officially by the Permanent Secretary to the deans of every medical college in the United States and to every medical journal in the United States, now, therefore, the American Medical Association gives notice that hereafter no professor or other teacher in, nor any graduate

* No meetings in 1861 and 1862.

of, any medical college in the United States, which shall after January 1, 1899, confer the degree of doctor of medicine or receive such degree on any conditions below the published standard of the Association of American Medical Colleges, will be allowed to register as either delegate or permanent member of this Association.

Each delegate or permanent member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section Officers.

Secretaries of Medical Societies, as above designated, are earnestly requested to forward *at once*, lists of their delegates. Also, that the Permanent Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the Secretaries are, *by special resolution*, requested to send to him, annually, a corrected list of the membership of their respective Societies.

Orations

on Medicine, James C. Wilson, Philadelphia; on Surgery, Floyd W. McRae, Atlanta, Ga.; on State Medicine, Daniel R. Brower, Chicago. Chairman, Committee of Arrangements, Starling Loving, Columbus.

Amendment

offered by W. L. Walls, Cal.:

Constitution, Art. IV.—Officers. Amend to read: "The following officers, *viz.*: President, four Vice-Presidents, Treasurer, Librarian, Secretary, Assistant-Secretary, and Chairman of Committee of Arrangements, shall be nominated by a special committee of one member from each State represented at the meeting, and shall be elected annually by the vote on a joint ticket, and shall hold office until their successors are elected."

Sections.

"The Chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may regard important, and present the same, on the first day of the annual meeting, to the Section over which he presides. The reading of such address not to occupy more than forty minutes."—*By-Laws*.

"A member desiring to read a paper before a Section should for-

ward the paper, or its title and length (not to exceed twenty minutes in reading) to the Secretary of the Section, at least one month before the annual meeting at which the paper or report is to be read."—*By-Laws*.

Officers of Sections.

Practice of Medicine.—Frank Billings, Chicago, Chairman; Carroll E. Edson, Denver, Secretary. *Surgery and Anatomy*.—W. J. Mayo, Rochester, Minn., Chairman; M. L. Harris, Chicago, Secretary. *Obstetrics and Diseases of Women*.—A. H. Cordier, Kansas City, Mo., Chairman; W. D. Haggard, Jr., Nashville, Tenn., Secretary. *Materia Medica, Pharmacy and Therapeutics*.—Thomas H. Stucky, Louisville, Ky., Chairman; Leon L. Solomon, Louisville, Ky., Secretary. *Ophthalmology*.—Casey A. Wood, Chicago, Chairman; Charles H. Williams, Boston, Secretary. *Laryngology and Otology*.—Emil Mayer, New York, Chairman; Christian R. Holmes, Cincinnati, Secretary. *Diseases of Children*.—Henry E. Tuley, Louisville, Ky., Chairman; L. D. Boogher, St. Louis, Secretary. *Physiology and Dietetics*.—J. Weir, Jr., Owensboro, Ky., Chairman; Lee Kahn, Leadville, Colo., Secretary. *Neurology and Medical Jurisprudence*.—Frederick Peterson, New York, Chairman; Hugh T. Patrick, Chicago, Secretary. *Cutaneous Medicine and Surgery*.—W. T. Corlett, Cleveland, Ohio, Chairman; J. M. Blaine, Denver, Colo., Secretary. *State Medicine*.—Arthur R. Reynolds, Chicago, Chairman; W. P. Munn, Denver, Colo., Secretary. *Stomatology*.—George V. I. Brown, Milwaukee, Wis., Chairman; Eugene S. Talbot, Chicago, Secretary.

WM. B. ATKINSON, *Permanent Secretary*.

THE
AMERICAN GYNÆCOLOGICAL
AND
OBSTETRICAL JOURNAL.

MAY, 1899.

THE CONSIDERATION OF VAGINAL FIXATION IN
THE TREATMENT OF RETROVERSION*.

BY E. E. MONTGOMERY, M.D., PHILADELPHIA.

The subject of vaginal fixation or colpo-hysteropexy covers a number of operative procedures. Thus, nearly fifty years ago, Amussat endeavored to fix the uterus by applying a hot iron to the vaginal walls, cauterizing the tissue, and thus producing a cicatricial bridle which would contract and displace the organ forward or backward. This treatment, however, was less injurious in ante- than in retro-displacement, on account of the close proximity of the peritonæum in the posterior cul-de-sac. Various plastic operations have also been done upon the vaginal walls. These were also unsatisfactory in retro-displacements, for the reason that the tissue to be contracted had been pushed off from its base.

Schucking, in 1888, instituted a procedure by springing from a curved sound a concealed needle, through which a ligature was drawn back, and the uterus fixed in an ante-fixed position, but this, like the instrument devised for plunging through the anterior abdominal wall from the uterine cavity, was found to be too uncertain to be safely continued. As the treatment of pelvic inflammatory conditions through the vagina became popularized, it was not surprising that this route should have been employed in the treatment of other pelvic disorders, and especially retro-displacements. For the anterior fixation of a retro-displaced uterus Duhrssen devised an operation through the anterior vaginal fornix. The plan of procedure was to make a vertical incision through the anterior vaginal wall down to the cervix, push off

* Read before the Philadelphia Obstetrical Society, March 2, 1899.

the bladder until the peritonæum was reached, when, without opening the peritonæum, a suture was introduced, and pulled upon it, and a second suture introduced nearer the fundus, so that the uterus was brought forward and the edges of the suture were then brought out in the vaginal incision.

Mackenrodt modified the operation by opening through the peritonæum, introducing sutures at a higher level, and stitching the fundus of the anterior vaginal wall to the incision, after which the peritonæal and vaginal wounds were closed.

Wertheim still further modified the operation by bringing the folds of the round ligament into the wound and stitching them to the edges of the vagina. The round ligaments have also been shortened through the vaginal opening, doing the operation of Wylie, through a vaginal rather than an abdominal wound.

Gottschalk opened through the posterior fornix of the vagina and shortened the utero-sacral ligaments. As the cervix was thus raised up, the other end of the lever must necessarily fall forward. Pryor makes a transverse incision through the posterior fornix, breaks up adhesions, carries the uterus forward, then packs gauze into Douglas' pouch, and also beneath the cervix, pressing it well upward and backward. The adhesions formed in this region lead to correction of the malposition.

The writer has several times performed Mackenrodt's modification of Duhrssen's operation; has also shortened the round ligaments through the vagina, and practised Wertheim's modification for bringing the round ligaments into the wound. His experience, however, leads him to consider the operation one of limited application, for it is exceedingly difficult through an anterior colpotomy, to break up retro-uterine adhesions and set free a uterus which is firmly fixed in the pelvis. The uterus is likely to be injured in the efforts to bring it forward. Cases are on record, in which the injuries have been so great as to necessitate the completion of the operative procedure by hysterectomy.

In cases in which the uterus is heavy, the vaginal walls relaxed, and particularly the utero-sacral ligaments elongated, the operation is likely to result in a sagging down and falling backward of the uterus, dragging with it the vagina and bladder, increasing the vesical distress. The operation has been found to be a more frequent cause of dystocia than has the fixation of the uterus through an abdominal incision. This would probably be less likely to occur in Wertheim's modification, which brings the round ligaments into the wound, than in the direct fixation of the fundus to the vaginal wall. Dragging of the round ligaments into the vaginal incision is sometimes attended with consider-

able difficulty, and with tearing of the ligament out of its bed, leading to hæmorrhage which is difficult to control.

The possibility of serious injury to the uterus in correcting the displacement, the difficulty in accomplishing separation of extensive retro-uterine adhesions; the danger of injury to tubes and ovaries thus bound down; the inability to see and properly treat the field of injury; the record of unfortunate complications during gestation and parturition, have led the writer to discard the vaginal route in the treatment of retro-displacements. The dragging of the uterus upon the adhesions in relaxed vagina and elongated utero-sacral ligaments is equally a valid objection to ventro-suspension, and doubtless is one of the causes of the occasionally painful dragging upon the band of adhesions following the latter operation. In such cases the shortening of the utero-sacral and round ligaments would seem to the writer the preferable procedure.

ALEXANDER'S OPERATION.

BY CHARLES P. NOBLE, M.D.,

Surgeon-in-Chief, Kensington Hospital for Women, Philadelphia.

The shortening of the round ligaments is a subject which might be treated profitably at length. The history of the operation, its present status in different countries, the various methods which are employed in its performance, the results which have been secured, and the relative merits of this operation as compared with several others devised for the treatment of retro-displacements, are all subjects of very practical interest. Some of these subjects will be developed this evening by other members, hence it will be most profitable to occupy the ten minutes at our disposal by giving merely my own experience with this operation.

I adopted the shortening of the round ligaments for the treatment of mobile retro-displacements of the uterus in 1894, and since that time have performed sixty-two operations. In brief, I may say that increasing experience with the operation causes me to estimate it more and more highly, and that I look upon it, when properly performed, in

* Read before the Philadelphia Obstetrical Society, March 2, 1899.

suitable cases, as one of the most satisfactory operations in gynæcology. All of the patients have recovered from the operation.

I adopted the Alexander's operation under the influence and following the teachings of Edebohls. Several times I have modified the operation as he performs it, but the technique as laid down by him is so perfect that at the present time I follow it, with the exception of the manner of closing the incision in the aponeurosis of the external oblique. This exception consists in not merely closing the incision by a running suture, but in lapping one layer of the aponeurosis over the other, as is my practice in closing the abdominal wall in the middle line. This, I believe, makes a stronger wall to the canal.

Having stated my general estimate of the value of the operation and the method employed in its performance, it remains to consider a number of questions in detail. The first time I attempted the operation I failed to find either round ligament. This was not at all the fault of the operation, but my own fault, from lack of skill in its performance. Since that time I have never failed to find the ligaments. In spite of the assertions of some, there is no doubt that the ligaments can be found in the inguinal canals, except in the rarest instances.

In two cases, in drawing the ligaments out, they have broken off close to the uterus, so that it was necessary either to abandon the operation or to substitute hysterorrhaphy. This I did in the two cases under discussion. In, I believe, two other cases the ligament has broken off some distance from the uterus, when it was possible to recover it and complete the operation. This is an accident which, in my judgment, will occur in a definite percentage of cases, and is one of the legitimate objections to Alexander's operation.

In one case phlebitis of the left crural vein followed a combination of Alexander's operation, curettage, and perinæorrhaphy. To which operation the phlebitis was due, of course, it is not possible to say. This is the only accident or sequel to the operation which has come under my observation.

In several cases patients have complained of considerable pain in the inguinal wounds. I suspected that this might be due to the employment of buried silkworm-gut sutures, and for some time have substituted chromicized catgut. In one case, in a highly neurotic woman who knew of the presence of the silkworm-gut sutures, she complained of them until I cut down upon them and removed them, from one inguinal canal.

In one case, in which I performed the operation up to the stage of the closure of the subcutaneous fat and skin, which was closed

by an assistant, superficial suppuration, involving the skin and subcutaneous fat, but not extending to the inguinal canal, occurred. This is the only case in which I have seen suppuration follow Alexander's operation. Whether the assistant infected the skin-wound or drew his sutures too tightly, it is not possible to say. I can conceive no other reason for suppuration taking place in such wounds as those present in Alexander's operation. I have been told by various operators that a large percentage of the wounds in the inguinal region suppurate, whether Alexander's operation or operations for the radical cure of hernia. It seems to me that such a statement is a clear indictment of the technique of the operator reporting it. Either he or his assistants have not learned how to clean their hands, or the operator has not learned the proper method of suturing. Direct infection or strangulation of tissue is the only explanation of suppuration in such wounds. In support of this I might add that, of the considerable number of hernia operations which I have done, I have never seen a suppuration.

In two cases the operation was a failure. In one the failure was absolute, as within a few months the uterus was in the same position as before operation. In the second the failure is partial, as while the uterus is not retroflexed, the fundus falls back of the safety line, and without the aid of the pessary I have no doubt that after a short time the retro-displacement would take place. The cause of failure in these cases is not clear. Either the ligaments were not shortened sufficiently, which is most probable, or they have stretched out subsequent to the operation.

No hernias have been reported to me as occurring in this series of cases. The reports from the Hospital for the Ruptured and Crippled in New York indicate that a considerable percentage of hernias follow Alexander's operation as performed in New York. This appears to be a fact which requires explanation, and probably it is due to faulty technique. The percentage of permanent cures for the radical cure of hernia done by the Bassini and Halsted methods is now so large that one would expect *a priori* a very small percentage, or none at all, of hernias following Alexander's operation, as the likelihood of recurrence is much greater than the primary occurrence of hernia.

It will be of interest to compare this work with my experience with hysterorrhaphy. In May, 1896 ("Suspensio-Uteri with Reference to Its Influence upon Pregnancy and Labor," *Amer. Jour. Obstet.*, Vol. xxxiv., No. 2, 1896) I reported sixty-five cases of hysterorrhaphy; since that time sixty-two have been performed, making a total of one hundred and twenty-seven to date (March 3, 1899). Of these opera-

tions three are known to have been failures, in which the operation was done for retroversion, as the uterus pulled loose from the abdominal wall. This happened twice while the patient was in the hospital, and probably was due to over-filling of the bladder. Since that time I have used a stationary catheter for the first two days. In one case of procidentia the operation was a failure, the cervix again appearing at the introitus, although the uterus remain attached to the abdominal wall. I may add that this is the only case of failure of a procidentia operation which I have seen since the present technique was employed, now about six years.

Two hernias are known to have occurred. In one the wound suppurated, and in the other primary union was obtained. There have been two deaths; one from pneumonia, and one from heat-stroke.

During the same time Mann's operation, or the intra-peritonæal shortening of the round ligaments, has been performed six times. In all of these cases the uterus was in good position when the patients left the hospital, but it has not been possible to follow them subsequently. I have been favorably impressed with the operation, and unless future experience should condemn it, intend to practise it in suitable cases.

Vaginal fixation has been performed twice. In both these cases the patients had passed the menopause and were suffering from a moderate degree of procidentia. Both of the women were extremely fat, and for this reason vaginal fixation was selected instead of hysterorrhaphy. In one case the result secured is very satisfactory, in the other the patient died some weeks after the operation. She was insane before the operation, and developed acute brain symptoms some weeks later.

In conclusion I shall discuss briefly some of the advantages and disadvantages of Alexander's operation, especially in comparison with suspensio-uteri. The mortality should be zero, or approximately this figure, in either operation, but the risk is certainly less in the Alexander's operation. It is impossible to bring surgical technique to perfection and absolutely eliminate the risk of infection. In the one operation an infection would mean only a local suppuration, whereas in the other it might mean a fatal peritonitis.

Alexander's operation is the more desirable also from the standpoint of pregnancy. At least two of my patients have borne children subsequent to the operation without difficulty. The only complaint which has been reported in the literature which can be attributed to Alexander's operation is a certain amount of tugging on the canals in the later months of pregnancy. In no case has there been any inter-

ference with labor. This is not the case with hysterorrhaphy, although the difficulties which have been met with in labor, varying from simple disturbances to impossible labor, necessitating Cæsarean section, have undoubtedly been due in a large measure, if not entirely, to a faulty technique. It is my opinion that if the technique of Kelly be followed the risk of serious dystocia is very slight. Nevertheless, it seems to me, there can be no doubt that of the two operations, when equally applicable, the Alexander operation should be preferred from the standpoint of pregnancy.

Alexander's operation is to be preferred to hysterorrhaphy, because only the proper ligaments of the uterus are made use of in restoring the uterus to its normal position. There is no additional ligament and no intra-peritonæal adhesion as is the case in hysterorrhaphy. The principle of the operations, in my judgment, is the same; that is, the uterus is drawn in front of the line which permits intra-abdominal pressure to fall upon the posterior surface of the uterus, and thus to keep the uterus in anteflexion; but of the two operations, the Alexander accomplishes this in the more natural way.

Alexander's operation puts the uterus in a more normal position than does hysterorrhaphy. The uterus is in a somewhat exaggerated position of anteflexion after both operations, but after hysterorrhaphy it is undoubtedly elevated in the pelvis; after Alexander's operation, it is alleged, that it is somewhat depressed, although this, I think, is questionable.

The relative disadvantages of Alexander's operation are:

1. The difficulties in diagnosis. Every gynæcologist of experience knows that it is at times difficult to exclude absolutely the existence of adhesions, and it is possible that, if adhesions are overlooked, they may result in the failure of the operation. On the other hand, I believe that adhesions of so delicate a character as to defy detection by an expert, as a rule, would not be strong enough to interfere seriously with the result of the operation. This disadvantage of the operation will be magnified by those who are careless in diagnosis, and minimized by those who are painstaking enough to make a diagnosis before operation instead of after it.

2. Another relative disadvantage of Alexander's operation is its comparatively small range of usefulness. It is adapted only to cases of mobile retroflexion. If the uterus is adherent, or if the appendages are diseased, it is clearly inapplicable. In such cases the abdomen should be opened and hysterorrhaphy or Mann's operation performed. In complete procidentia it is also inapplicable, although I have done

the operation a number of times in young women of child-bearing age, when the procidentia was not extreme. In such cases plastic work in the vagina can be relied upon to support the pelvic contents, and the Alexander's operation merely serves to keep the fundus forward. In my practice the most frequent indication for hysterorrhaphy is procidentia uteri. I consider it one of the most important in the series of operations needed to cure that condition.

3. The final disadvantage of Alexander's operation consists in the difficulty of finding the ligaments and the possibility of breaking them. No careful and well-trained surgeon need hesitate to adopt the operation because of the difficulty in finding the ligaments, as this is no more difficult than to find any other anatomical structure in the body, provided a proper technique is followed. The experience of those who have done the operation many times has demonstrated that the ligaments are in the inguinal canals, except in the very rarest instances. Only a few authentic cases are on record where the ligaments pursued an aberrant course, being inserted at some other point than the spine of the pubes. The possibility of breaking the ligaments in stripping them out of the canals cannot be eliminated. When the ligaments are small, and more especially when they are friable, as is the case where marked pelvic congestion is present, this accident may well happen even in the most careful hands. In my opinion the best treatment under the circumstances is to open the abdomen and to substitute a hysterorrhaphy.

SUSPENSIO-UTERI AND INTRA-PERITONÆAL SHORTENING OF THE ROUND LIGAMENTS.*

BY RICHARD C. NORRIS, M.D., PHILADELPHIA.

I believe it is the experience of most men that there are a certain number of cases of retro-displacement of the uterus that cannot be successfully treated in any way but surgically. We all treat some of our cases with pessaries and with wool tampons, and perhaps some of us have tried massage. With other men of this city, I have employed a woman, specially trained, who practised massage on some of these cases with backward displacement of the uterus, where there was not marked tubal and ovarian disease, and my experience with that plan of treatment has not been encouraging. Confronted with the necessity for surgical treatment, the question is, what plan of treatment had best be adopted. A large number of operations have been devised for the cure of backward displacement of the uterus, and the fact that they are so varied shows that one plan of operation cannot be adapted to all cases.

With the vaginal operations for backward displacements I have had no experience, because I, along with other men, have found the vaginal route not particularly attractive in the treatment of these cases, and, having had a satisfactory experience with other operations, I have had no desire to change.

The next question that naturally comes up in the discussion of this subject is, what is the least radical treatment when the backward displacement seems to be dependent upon lack of muscular tone and relaxation of the pelvic floor following lacerations, and associated with laceration of the cervix and subinvolution of the uterus. Some men claim that plastic operations will cure backward displacement of the uterus in the absence of serious disease of the appendages. Dr. Emmet of New York has taken this stand. In this discussion we should be guided by our own experience. For a number of years I relied upon the plastic operations, and I must say that, in some cases, with the aid of a pessary, and after the lapse of six months or a year, the backward displacement has been cured. Other cases, however, have utterly failed. Some women can afford to wait so long for the result, but women who have to be on their feet a great deal,

* Remarks before the Philadelphia Obstetrical Society, March 2, 1899.

whose lives cannot be devoted to ease and comfort, require something quicker and something more certain, and for the class of women who desire immediate relief it is my practice not to rely upon plastic operations alone. Of course, as I will point out later, the majority of these cases who have backward displacement of the uterus, with annoying symptoms, have more than a simple displacement. There are various changes in the tubes and in the ovaries, be they adhesions or more widespread and destructive inflammatory changes. Such cases require more than plastic work. From my experience I can assert that plastic operations will ultimately, if the pessary is subsequently used, bring about a cure in a certain limited number of cases, where the appendages are free from disease, but a long time will always be required, and in some cases ultimate failure will occur. Admitting, then, that many cases will require more than plastic surgery, it has been my experience that these cases can usually be cured by one of three operations—ventral suspension, intra-abdominal shortening of the round ligaments, or Alexander's operation.

I looked over my case-book during the afternoon, and find that I have operated fifty-one times for ventral suspension within the last three years, and within the same period I have operated fifteen times by Alexander's operation. The latter figures indicate, in my experience, the relative proportion of cases in which I have found a freely movable but retro-displaced uterus which, according to my sense of touch, was not associated with other pelvic inflammatory lesions requiring treatment, and which, therefore, justified Alexander's operation.

Let me summarize what might be considered indications for the operation of suspensio-uteri. I would in the first rank place those cases, free from adnexial disease, which give pronounced symptoms of a backward displacement, and for the relief of which all mechanical means have failed. Men vary in their skill in the local treatment of these cases. Some men possess to a greater degree than others the mechanical ingenuity necessary to succeed with pessaries and wool-packs. I have known of failures even in efforts to replace the womb. I know myself that I have, after persistent efforts, replaced a womb which I first thought adherent. By making pressure in the rectum to dislodge the womb caught between the utero-sacral ligaments, subsequent bimanual manipulation without difficulty replaced the uterus. On previous occasions I had thought the womb adherent, and that an operation would have to be performed. After

all mechanical means have failed, in the hands of a skilful operator, an operation is justifiable.

Another class of cases for which ventro-suspension is indicated comprises those cases in which injury of the pelvic floor and the cervix has been repaired by another surgeon, or by yourself, and the backward displacement has not been corrected. I have now a case convalescing from a ventro-suspension, whose cervix and perinæum were repaired nearly two years ago by one of our well-known operators, who told the patient that the operation would cure her displacement. She has been suffering ever since with backward displacement of the uterus and adherent tubes and ovaries. I believe she will return home relieved entirely of her discomfort by the operation which, in my judgment, should have been performed at the same time the plastic work was done. It is folly to attempt by massage or other mechanical means, the cure of such a case. This case is also a type of another class for which ventro-suspension is specially indicated. I refer to retro-displacements associated with adherent tubes and ovaries, which cannot be dealt with short of opening the peritoneal cavity. In such cases it seems to me that the abdominal route offers by far the greatest advantage, since it affords the best opportunity for careful, conservative surgery of the appendages.

Another class of cases indicating surgical intervention and the use of suspension is prolapse of the uterus. I, as well as the rest of you, have operated for prolapse of the uterus by extensive plastic operations, and subsequently some of these patients have returned with their uteri hanging out of their bodies. I have never had this result follow a ventro-suspension combined with careful and extensive plastic work in the vagina.

Let us for a moment consider some of the dangers of the surgical treatment of retro-displacement of the uterus. In my own experience no accident has followed ventro-suspension. I know among my friends of one case that died of an embolus three weeks after operation; of another case dying of heat exhaustion during an oppressively hot summer; of one case that died of infection; of one case that died of obstruction of the bowels. But of the vast number of these operations by men who have the skill to do them well we could run up into the thousands with a mortality so trifling that no surgeon would place that accidental mortality in the balance with the years of comfort secured for a very large number of grateful women. It is a perfectly frank statement to say it has the least danger of any abdominal operation, and that it is an operation almost always followed by good results,

one that the surgeon undertakes with the greatest confidence, and one that, in the hands of a skilful man, entails practically no danger to life. I take it then that the operation is practically without mortality, provided it is done by a man who understands the proper technique of the operation, and is known to be well equipped for aseptic methods.

It is necessary in this discussion to consider what danger there is to your patient should she become pregnant. I have delivered five women who have had their uteri suspended or fastened to the abdominal wall. In one case there had been firm adhesion of the fundus to the parietal peritonæum which gave great difficulty and caused the sacrifice of her child. Of the four others which I attended, one was operated upon by myself and the other three by men who used a similar technique, which aims to produce a suspension and not fixation. In the latter cases the labors were normal. This whole question of pregnancy being interfered with, depends, as Dr. Noble has pointed out, in a recent paper, upon whether there has been firm union between the abdominal wall and the fundus of the uterus. With the proper technique in this operation, I believe the dangers in a subsequent pregnancy will be reduced to a minimum.

Now, what are the remote results of this operation in relieving the local conditions, and the pain and suffering, on account of which these patients consult us? In some cases a woman is practically an invalid from displacement of the uterus. From a critical study of my own cases, and from many cases operated upon by others, I think there is no operation which we do that gives so brilliant results. There are many nervous, neurotic women whose symptoms happen to be associated with, but may not be dependent upon, their backward-displaced uteri, and neither the neurologist nor the gynæcologist is able to say whether or not the nervous symptoms are dependent upon the displacement, and in such cases we can only reach our conclusions after the operation has been performed.

Among the remote results we must consider the recurrence of backward displacement. I have seen two cases of my own in which the retroversion recurred. I have seen two cases that were operated upon by another operator, and I have seen one of another, where the displacement recurred after delivery at term. She had a rather difficult labor, not dependent in any way upon the operation. There is a possibility of recurrence, but this, again, depends somewhat upon the technique employed.

It is important to call attention to a few practical points in the

technique that I have found useful. The incision is to be made just above the symphysis pubis, one and a half to two inches in length. It is wise to open the peritonæum at the upper angle of the incision, to avoid the bladder. On one occasion I had the misfortune to open the bladder, but with no ill effect, and I subsequently found that there was an anomalous position of that organ. It is important to free all adhesions of the uterus; otherwise, the traction of these adhesions against the sutures which you pass through the fundus of the uterus will finally draw them out, and you may have a recurrence of the displacement.

A difficulty in performing the operation which most men encounter is the introduction of the first stitch. It is sometimes difficult, with two fingers, through a small incision, to balance the womb. Dr. Kelly has devised a retractor to overcome this difficulty. I have found that nothing answers the purpose so well as an ordinary tenaculum to steady the womb. The needle of the second suture is passed into the opening made by the prick of the tenaculum.

Another important practical point is the kind of needle you use. It should be a short, half-curved, spear-pointed needle, without cutting edges; one that will not cut too much for fear of making an incised wound that might bleed freely. There is also less danger of wounding the intestine. It is necessary to bury the silk sutures in the tissue of uterus at least half an inch. They should be placed half an inch apart, the first one a line or two posterior to the level of the uterine cornua. The first stitch should catch a few fibers of the posterior surface of the rectus muscle, to prevent the formation of a dead space between the peritonæum and under surface of the muscle; the second stitch takes only the parietal peritonæum. If you simply tack the fundus of the uterus to the parietal peritonæum, it pulls away more readily than you desire, and leaves a dead space, which is undesirable. Before the first suture is tied the finger should be introduced to be sure that a coil of intestine or portion of omentum is not caught in this suture. It is my custom to close the abdominal wound with through-and-through silk-gut stitches, with a running catgut stitch in the fascia of the rectus muscle.

The use of the catheter is necessary and desirable, to prevent tension on the sutures by an over-filled bladder. The after-treatment is the same as after any laparotomy.

My estimate of this operation is that it meets heartily with my approval. I have never had an accident follow it, and some of the cases which I have treated in this manner are the most grateful patients

I possess. I regard this operation as one that gives as brilliant results as any in the practice of gynæcological surgery.

Mann's operation I have performed but twice. I believe it has a field of usefulness, but I have had no desire to depart from ventral suspension, because its results have been all I could desire. In conclusion let me call attention to an additional procedure, which I have found most useful in conjunction with the suspension of the uterus.

In my experience with retroflexion and retroversion, prolapse of one or both ovaries is frequently associated with the uterine displacement. Ventro-suspension will not always correct the faulty position of the ovary, neither will Alexander's operation. In my recent cases I have found the greatest satisfaction from doing a suspension operation upon the prolapsed ovary, by means of a stitch shortening the infundibulo-pelvic fold of the broad ligament and elevating the ovary to its normal level.

I believe some of the symptomatic failures following ventro-suspension and Alexander's operation are due to a prolapsed ovary, which the operation has failed to relieve, and which continues to cause the patient great discomfort.

THE NON-OPERATIVE TREATMENT OF RETRO-DIS-
PLACEMENTS OF THE UTERUS.*

BY F. HURST MAIER, M.D., PHILADELPHIA.

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The treatment of retro-displacements must have two distinct purposes in view. First, the bringing forward of the uterus into its normal position, and, second, its retention therein.

The methods by which this is to be accomplished vary, depending upon the nature of the displacement. If the uterus is free, or fixed by adhesions; and if it is easily or with difficulty kept in place.

If the organ is free it can be elevated by means of the fingers, posture and instruments. The dorsal position may first be tried, and the uterus replaced by bimanual manipulation. In more obstinate cases, where the abdominal walls are fat, the patient should be placed in Sims', or the genu-pectoral position; or the cervix grasped with a tenaculum and pulled downward to dislodge a possibly impacted uterus.

Usually one of these methods will prevail; if not, recourse must be made to an anæsthetic, when, with proper manipulation, the reposition will surely be effected.

Regarding the use of the sound and intra-uterine repositors, I believe they should be condemned, as dangerous procedures, inviting not only infection, but possible perforation.

Quite different are the conditions with which we have to deal where the uterus is fixed. Here the organ, before it can be replaced, must be separated from the surroundings to which it is attached.

We have two ways of doing this; first, the method of Shultze, in which the adhesions are forcibly broken up under anæsthesia, and, second, the use of massage.

The latter seems to me the more rational procedure of the two.

With massage the uterus is set free by a gradual separation of the adhesions. The manipulations are such that the uterus and its ligaments often regain their lost tone; and the organ is able to maintain its anterior position without the aid of any mechanical contrivance.

The séances usually last from three to five minutes, cause little or no pain, and are repeated as often as necessary.

* Read before the Philadelphia Obstetrical Society, March 2, 1899.

After each treatment I prefer to tampon the vagina with lamb's wool to retain what advantage in elevation I have gained.

To successfully *masser* the patient on an ordinary operating table is impossible. The tax is too severe on both the patient and the strength of the physician. The proper way is to have the woman on a low couch, her head and shoulders elevated, and legs flexed. The seated position of the *masseur* is at foot and left side of the couch. The left arm is thus supported by the left knee, and the right free to work from the shoulder.

It is a matter of surprise what an intimate knowledge of the woman's pelvic organs is thus gained; and how little fatiguing the procedure is.

The retention of the retro-displaced uterus in its normal position is best accomplished by means of the various pessaries.

The most useful of these are the modifications of the Hodge (Smith, Thomas, and Mundé), and Shultze's figure-of-eight pessaries. The principle of both is the same, "maintaining the cervix posteriorly in its normal position"—the former, by its action on the posterior vaginal wall; and the latter by the smaller loop of the eight directly encircling the cervix. They are made from many different materials. I have found it an excellent practice to use a temporary pessary, of copper wire, covered with soft rubber (this is easily bent into any shape) until a proper fit is obtained; and then fashioning a fac-simile of this from hard rubber.

A properly fitting pessary should give rise to no pain or discomfort; and should retain the uterus in its normal position.

It should be worn until the ligaments have regained their normal tone, and are again capable of supporting the organ. This may require months, or even years.

To bring this about a supplementary treatment is necessary. Baths, vaginal and rectal douches, glycerine and ichthyol tampons, general tonics, and preparations of ergot for their action on the muscular structure, are to be used. The necessity of keeping the rectum and bladder empty should be impressed upon the patient, and the danger of tight-lacing, hanging heavy skirts from the waist, instead of supporting them from the shoulders, heavy lifting, and powerful muscular exertion pointed out. Lastly, she should be instructed to sleep on her abdomen if possible, and assume the knee-chest position at times during the day.

In conclusion, I may say "Palliative Therapeutics" have a limited field; often success is assured by the addition of a curettage, cervix, or perinæal operation. The operative resources, however, are not in the province of this paper.

THE CAUSATION OF UTERINE RETRO-DISPLACEMENTS.*

BY WILMER KRUSEN, M.D., PHILADELPHIA

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In such a society as this it would be a work of supererogation to define the terms retroflexion and retroversion. These retrodeviations of the uterus are far more frequent than any other variety of displacement. Säger, among 700 gynæcologic patients, found 108 cases of retrodeviation, or 15.43 per cent.; Winkel obtained 19.10 per cent., and Lohlein 17 to 18 per cent. In a series of 1000 women applying for treatment at the gynæcological dispensary of the Jefferson Hospital, 199, or 19.9 per cent. were found to have retro-displacements of the uterus.

In studying the causation of this condition, we may conveniently divide the cases into two classes: (A) Virginal or nulliparous women, in which class occurs about 10 per cent. of all retro-displacements. (B) Parous women. Sometimes the ætiological factor in unmarried women becomes more accentuated during later married life, and many causes are common to both social conditions.

(A) Causes of virginal retrodeviation. (1) Congenital retroflexion, which was first recognized by Saxtorph in 1775, and next by T. L. Lee, in 1849, is usually due to incomplete development of the anterior or posterior uterine walls. In Ruge's very interesting case (*Zeitschrift für Geburts. v. Gynäk.*, II., 1878), the anterior uterine wall was only 0.1 centimeter ($\frac{1}{25}$ in.) thick, the posterior wall 0.5 centimeter ($\frac{1}{5}$ in.) in thickness. Winkel reports four cases of congenital retro-displacements, in two of which there was a thinning of the anterior wall. (2) Schultze attributes puerile retroflexion to congenital shortness of anterior vaginal wall, whence it follows that distention of the bladder, which, normally, would slightly displace the uterus, completely retroverts it. (3) Senile atrophy of the genitals, which is associated with shortness of the vagina, while the bladder capacity remains unchanged. (4) Every time the bladder becomes filled, the uterus is placed physiologically in a temporary position of retroversion, hence prolonged over-distention of the bladder predisposes to this form of displacement. (5) Habitual constipation, resulting in severe, straining

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efforts and increased abdominal pressure during difficult evacuation of the rectum, is a frequent factor in both virgins and parous women. (6) Masturbation, according to Fritsch, is responsible for many cases of vaginal retro-displacement, this habit relaxing the uterus and increasing the loss of nutritive fluids. Hildebrandt reports finding seven retroflexions in twelve girls greatly addicted to this vice. (7) Constitutional diseases, such as chlorosis and anæmia, tend to relax the uterine supports, cause a disappearance of the adipose tissue, produce constipation and even make the uterine muscle itself relaxed and flexible. (8) Neoplasms, either intra- or extra-uterine, or of the appendages, by their presence may displace the uterus and obscure the diagnosis. This cause applies to both classes.

Class B.—Parous women, among whom the most frequent predisposing and direct causes are associated with pregnancy, parturition, and the puerperium. Of these the first to be considered is puerperal metritis or subinvolution. This may be confined to the placental site, as suggested by the elder Martin, or affect all parts of the uterine parietes. If the placental site be on the anterior wall, and this area be inflamed and thickened, this will produce a marked tendency to retroflexion. Again, chronic or puerperal metritis, by increasing materially the size and weight of the organ, with the relaxation of the round and broad ligaments, will favor its dislocation. Second, laceration of the pelvic floor and the perinæum, by decreasing the normal support of the organ and permitting the development of rectocele and cystocele, is speedily followed by either downward or backward displacement, depending upon the extent of the relaxation. Third, posterior parametritis or perimetritis, with subsequent adhesions, which produce a gradual drawing of the uterus from its normal situation, and its fixation sometimes quite firmly in an abnormal position, is a frequent cause. Salpingitis and exacerbations of this condition may produce these adhesions between the adnexa and the wall of the pelvis, fixing the organ in this indirect manner in a malposition. (4) Pregnancy itself may be a factor in the production of this condition, or may be complicated by it. Its frequency may be estimated by the report of Martin (*Deutsche Medicinische Wochenschrift*, No. 39, 1889) who found in 24,000 women 121 cases of retroversion and retroflexion persisting during pregnancy. (5) Increased intra-abdominal pressure from corsets and tight clothing, heavy skirts suspended from the waist, or the too prolonged use of the obstetric binder, applied too tightly, augment any previous tendency to retrodeviation. The picture of a powerful nurse expending her whole strength to get the binder snug and tight, so that the slender

figure of the patient may be maintained, even to the dislocation of her internal viscera, is a somewhat familiar scene to the obstetrician; and exhibits a practice more honored in its breach than in its observance. The proper method of applying the binder will not cause retrodeviation, though prolonged dorsal position after confinement may tend to that result. (6) Traumatism, blows, falls, or violent muscular effort may be followed by symptoms, and examination show the existence of retro-displacement. In these cases an unrecognized malposition may have already existed, or it is easily conceivable that a displacement could thus be brought about, especially if at the time of the traumatism the fundus uteri were lifted backwards by a distended bladder. In one case in which the patient was examined by several members of this society, an intelligent Philadelphia jury awarded a verdict against the Philadelphia Traction Company for \$10,000, in favor of the plaintiff, for sustaining a traumatic retroflexion of the uterus, due to her being violently thrown against the seat of a derailed car. This case illustrates the remarkable efficacy of financial therapeutics, as the patient, a widow, speedily improved and remarried soon after the cessation of litigation. Among the more infrequent and problematical causes may be mentioned impotent husbands, as suggested by Hildebrandt, who found fourteen retroflexions occurring in twenty women with impotent husbands, this being probably a simple coincidence, as Winckel observes. A wandering spleen was the direct cause in one instance reported, and varied accidental causes might be cited at great length.

In this brief *résumé* of the ætiology of this condition, many of the factors are common to both married and unmarried women, and in many cases one or more of the causes may be present and active in the same patient. Upon a correct knowledge of the ætiology of the displacement depends largely that more important element in the case, its successful treatment.

DIAGNOSIS OF RETRO-DISPLACEMENTS OF THE
UTERUS.*

BY JOHN M. FISCHER, M.D., PHILADELPHIA

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There is no class of gynæcological disorders concerning which physicians generally are more apt to consider themselves possessed of diagnostic skill sufficient to answer all practical purposes, and yet none in which so many err on the side of insufficient knowledge, and still worse judgment, in the correlation of facts necessary to secure a practical working formula, or, rather, a diagnosis in its fullest and truest sense, than in the study of retrodeviations of the uterus.

The determination of partial truths in this, as in other gynæcological conditions, rarely leads to correct conclusions, but quite as often precipitate errors in diagnosis that subsequently become responsible for added complications, and, in not a few cases, final disaster, as a consequence of ill-advised manipulation and treatment.

It should constantly be borne in mind that retro-displacements of the uterus are associated with almost every conceivable form of pelvic disease, either as complications or as distinct and essential pathological entities, and, as already indicated, not infrequently depend upon constitutional conditions of far greater significance, from a clinical standpoint, than the positional deflection of the organ itself. To make a diagnosis in the most comprehensive and useful sense of the term means more, therefore, than the mere ability to ascertain the accidental position of the organ, which, in itself, may contribute but little, if anything, to the history of the case either symptomatically or pathologically.

A proper conception of the normal always is a necessary prerequisite to an understanding of that which is abnormal. The mobile suspension of the uterus, its ever-changing position with repletion and depletion of rectum and bladder, and with varying degrees of intra-abdominal pressure, and its constantly prevailing tendency to occupy an almost horizontal position antero-posteriorly, under normal conditions, are matters of common observation with the profession. The flexibility of the organ at the junction of body and cervix, however, is frequently

* Read before the Philadelphia Obstetrical Society, March 2, 1899.

overlooked, although readily recognized by a proper bimanual examination, and yet, its absence is a matter of importance in diagnosis, because rigidity at this point indicates a structural change that complicates and frequently determines the special variety of retro-displacement in a given case.

Under normal conditions, in a woman of ordinary development, the bladder and rectum being empty, the fundus of the organ may be palpated immediately behind the symphysis, while the cervix forms a right angle with the vagina about two centimeters from the point of the sacrum. A uterus displaced posteriorly is considered, not necessarily diseased, but anatomically abnormal, whenever it has lost its prevailing tendency of anteversio-flexion, or, rather, when it maintains its displaced position, or its anomalous form, or both combined, more or less permanently.

Retrodeviations for practical purposes—diagnostic as well as therapeutic—should be considered, first, anatomically; second, etiologically; and, third, clinically, as follows:

Anatomically.—Retroversions, retroflexions, retroversio-flexions, retroversions with anteflexion.

Ætiologically.—Congenital, puerile, acquired.

Clinically.—Pathologic, complicating, indifferent.

Retroversion may be defined as a persistent posterior inclination of the uterus upon its transverse axis, so that the fundus is in relation with the sacrum, while the cervix approaches the symphysis. *Retroflexion* is a persistent posterior inclination of the body of the uterus, with coincident flexion upon its posterior face at its junction with the cervix. *Retroversio-flexion* is a retroversion, plus a retroflexion. This is the most frequent form of retro-displacement of the uterus. *Retroversion with anteflexion* is a persistent posterior inclination of the uterus, with either coincident flexion upon its anterior face at the junction of the body with the cervix, or anterior flexion of the intermediate portion of the cervix.

There is no symptom or group of symptoms that are of the slightest value in diagnosing retro-displacements of the uterus. Clinically, when considered in connection with other corroborative evidence, symptoms are of special value, but in no case can a positive diagnosis of the anatomical position of the organ be made by this means alone. A physical examination is always necessary. This may be done digitally, bimanually, or by the use of instruments. Instrumental examinations for diagnostic purposes, as ordinarily made, merit the severest condemnation. A physician who cannot determine a uterine position with-

out the use of the sound, either has a case in whom a possible displacement is secondary to, or a part of, some more important pathological condition, rendering the use of the sound a superfluous procedure, and, as might be shown, a positive danger, or, if uncomplicated by extra-uterine disease, his dependence upon this instrument to make a diagnosis is conclusive evidence of his want of skill and experience in making a proper pelvic examination in any case.

The dorsal position, on a firm mattress or couch, with legs and thighs moderately flexed, and head and shoulders slightly elevated, is the best for diagnostic purposes.

One of the first direct factors in the production of acquired retro-displacements, uncomplicated by extra-uterine disease, in the vast majority of cases, is prolapse, or descent of the organ, with coincident forward deflection of the cervix by the combined influence of the recto-vaginal septum and the curve of the pelvic canal, so that upon making a digital examination the cervix will be found lower in the vagina, and, therefore, nearer the vulvar orifice than under normal conditions, and instead of forming a right angle with the vagina, as formerly, it now occupies its long axis. This does not obtain in cases of undisputed retroflexion of the body of the organ, where the cervix is still found to retain its normal positional relationship with the upper portion of the vagina.

The comparatively frequent displacement commonly tabulated as retroflexion, it must be insisted, is something more than an angulated condition of the organ. The cervix occupying the long axis of the vagina in these cases certainly proves version of the organ as a whole, which, considered ætiologically, is of far greater importance than the angular deformity. The well-adapted scientific term "retroversio-flexion" expresses this combined position and form of the organ in language that cannot be mistaken.

Having determined the situation of the cervix, the physician next proceeds to locate the body of the organ. In a case of pronounced version or flexion this is easily accomplished by passing the finger along the posterior surface of the cervix to the corresponding vaginal fornix, when the characteristic outline and density of this portion of the organ directly continuous with the cervix may be felt in this situation, as low down even as the pouch of Douglass, here forming the upper end of the uterine lever that moves with coincident deflections of its opposite extremity, the vaginal cervix. In a version, as is well known, the body and cervix are approximately on a straight line, while in flexions an angle of greater or less degree between body and cervix is noted.

While a diagnosis of the position of the organ may be made in the vast majority of cases by digital examination alone, in cases not so well marked, or where possible complicating diseased conditions exist, it is not to be compared with the advantages offered by the bimanual method. By its practice we determine the absence of the uterine body in its normal position, its size, its outline, and more particularly its density, flexibility, and mobility. It is the only certain means by which we are enabled to diagnosticate antelexion with retroversion, and by it alone can a diagnosis be made of a case in the fullest and most comprehensive sense. The administration of an anæsthetic always proves of incalculable value as an aid to diagnosis in bimanual examinations. It relaxes the abdominal muscles, and removes the possibility of inflicting pain, and thus eliminates voluntary and involuntary resistance as barriers to a more thorough examination. Under its influence all of the pelvic structures can be better outlined, both in health and disease. In uterine displacements it is of special value for determining degrees of movability, or fixation of the organ by adhesions. A uterus supposed to be incarcerated is often readily brought forward under its influence, and complicating diseased conditions of far greater significance than the displacement, previously unrecognized, are thus frequently discovered.

In virgins it is often necessary to practise the bimanual method by recto-abdominal manipulation. This plan is likewise of value in the examination of all other cases of uterine deviations, with supposed complications, especially if, in addition, the uterus is drawn down in the vagina and fixed by a tenaculum or volsellum, thus bringing the posterior face of the uterine body and its appendages in a position for rectal palpation.

The ætiological and strictly clinical divisions of the subject from the standpoint of diagnosis will not be discussed, for the reason that this would open up the question of pelvic disease in all its forms, and its consideration, to be of any practical value, on points even of differential diagnosis, would far exceed the limits of this paper. It will suffice to state that to fully appreciate the clinical significance of retro-displacements of the uterus, the mutual relationship and interdependence of all the tissues and organs of the body and more especially those of the pelvis, both in health and disease, must be constantly kept in mind; and he who desires to become specially skilled in the recognition of the ever-changing phases of these disorders should first be possessed of the discriminating professional mind of an experienced practitioner in general medicine, he

should then acquire the *tactus eruditus* in bimanual manipulation that comes with constant practice, and, finally, as an occasional corrective of the constitutional plethora of information thus acquired, he should pass through all the stages of a well-rounded apprenticeship at the operating-table, and "drink deep" from the fount of previously unrecognized conditions, and mistaken diagnoses, as disclosed by abdominal section.

PRESENTATION OF A NEW ÉCRASEUR; ITS ADVANTAGES OVER LIGATURES AND CLAMPS IN INTRA-PELVIC SURGERY.*

BY J. DOUGAL BISSELL, M.D., NEW YORK

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Man's greatest teacher is Nature; she is ever ready to impart, but he is slow in absorbing the daily lessons she would teach. He constantly strives to master problems without her aid, without the knowledge of her laws, and invariably fails.

Had the early surgeons observed with reasoning minds the cattle of the field in attending to their young at birth, they might have devised better means of controlling hæmorrhage than that of hot irons and boiling oil. The practice of checking hæmorrhage by pressure is older than the history of man, and we have in the severing of the vessels of the umbilical cord by the dull pressure of the animal's teeth, one of its earliest applications.

The progress of science is possible only when men are willing, as Ambrose Paré, to sit at the feet of Nature and listen to her voice even in the face of persecution. It is to him we are indebted for having revived the idea of preventing hæmorrhage by the pressure of the ligature; yet more than two centuries elapsed before it became an established practice. The practical demonstrations by Dr. J. F. D. Jones, in 1805, gave to us the first knowledge of how Nature acts under these conditions, and it may profit us in this connection to briefly review his results.

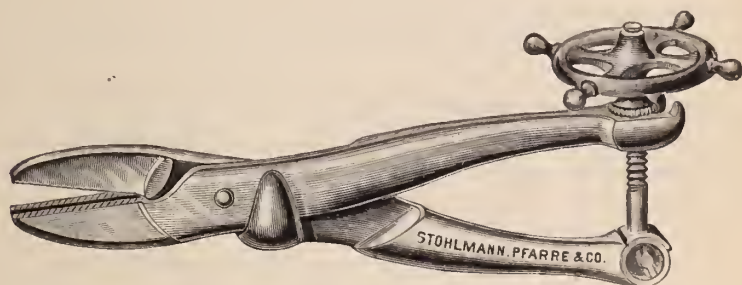
When arteries are completely severed, the divided ends retract within the sheath, thus diminishing the caliber of the canal; but in the small

* Read before the Woman's Hospital Society, February 21, 1899.

ones the blood coagulates in the sheath and subsequently becomes organized. When arteries are torn, the same thing takes place, but to a greater advantage, as the external elastic tunic is drawn out into a cone over the retracted inner coats; when contused, as by great pressure, so that complete rupture of all its coats has not taken place, the inner tunics break, may separate from the external cellular coats, or incurvate and completely occlude the vessel.

These facts are essential to the understanding of our subject, *viz.*, a systematic application to tissue in mass, of pressure sufficiently great to immediately and permanently check bleeding from all vessels within the compressed area.

About thirty years ago Dr. Nott of New York invented and used an *écraseur* for this purpose, but he failed to establish a correct and beneficial idea for the want only, I believe, of the knowledge and practice of asepsis and antisepsis. Pressure of tissue in mass thus fell into

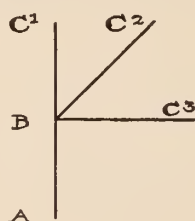


oblivion until Doyen of Paris, in 1897, doubtless independent of the knowledge of this early effort, revived it, and demonstrated most successfully its usefulness in major gynæcological surgery.

In the summer of 1898, I also began work upon the same line. At that time I did not have the knowledge of what had already been done in this field, and it was not until my ideas had matured that I became the possessor of these facts. It was a satisfaction, however, to find that both Doyen and Tuffier's instruments worked upon principles differing from mine. The shape of our instruments and the manner of applying force are essentially different, as will be seen in the illustrations.

While completing a hysterectomy clamp, which holds with greater security along the entire blade than the one now in common use, the possibility dawned upon me of devising a clamp sufficiently uniform and powerful in pressure to crush tissue in mass and thus instantly and

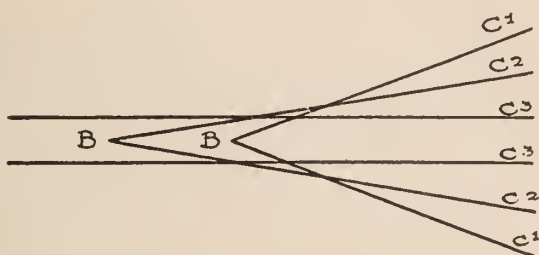
permanently control hæmorrhage. The blades of all hysterectomy forceps are continuous in direct line with the handles of the opposite side, making an acute angle near the fulcrum, while the points are wide apart. To diminish this angle as much as possible and thus prevent the crowding of tissue there, it is necessary to bevel the blades from the point to the angle. When the points meet, the separation occasioned by the bevel is gradually overcome along the entire blade if sufficient power is applied to the handles. To accomplish the complete and uniform welding of tissue where such resistance is offered, the application of very great force at lever end is necessary when the shape of the ordinary clamp is retained. A right angle would allow the blades, when opening and closing, to remain always parallel, thereby producing uniform pressure, but would give such shape to the instrument as would prevent its being useful under all circumstances. I have approached this right angle as nearly as possible without interfering with a convenient shape; *viz.*, forty-five degrees. Tissue is not very resisting, and by the application to the levers of this shaped instrument of about two hundred pounds, equal to the amount of force that can be developed by the two hands, thorough crushing can be accomplished. Another advantage offered by approximating the right angle is that each point of the blade is brought a fraction nearer to the fulcrum, which necessarily requires the application of less force at the lever ends to overcome a given resistance at the blades.



Let A B C¹ represent the lines of the ordinary forceps from the fulcrum to the points; A B C² the lines of a forceps working at about forty-five degrees; A B C³ the lines of a forceps working at right angles. As these forceps open we have their blades represented by the following diagram:

B C¹ represents the lines of the ordinary forceps; B C² represents the lines of the forceps working at an angle of forty-five degrees, and B C³ represents the lines of the forceps working at a right angle. The

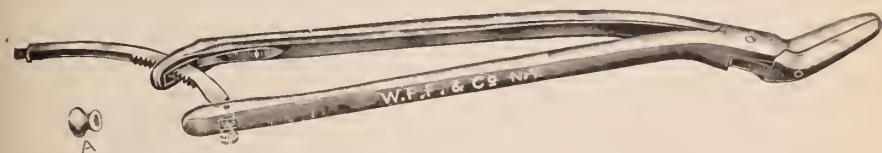
first, A B C¹ is adopted by Doyen, Tuffier, and Thumin; the third, A B C³ are the lines which would give equal pressure along the blades; the second, A B C² are the lines adopted in my instrument, which ap-



proximate the right angle and thus allow the blades to approach each other about one-half nearer the paraillel.

The entire length of the instrument is fifteen inches, the handles being about one foot long, and bent at an angle of twenty degrees, giving an enormous leverage, the application to which of a minimum force accomplishes the desired end. The catch is automatic and moves out of the way when the handles approximate. The blades are slightly beveled and with the advantage gained in their approximation to the right angle, they close sufficiently parallel for all practical purposes; they are shorter and narrower than those of the angiotribe, which is an advantage in that less space is required in manipulating.

One hand governs the levers, at the same time giving a general direction to the instrument. The other hand directs the blades and holds



in position the tissue to be crushed, and when the tissue is firmly caught, the hand which is directing the blades should be released and its power also applied to the levers. When, after the lapse of from three to five minutes, it is desired to release the blades, the handles should be grasped firmly with one hand and the ball pushed up with the other.

I have preferred to call this instrument an *écraseur* for the reason

that the meaning of the word strictly defines the work done, which is crushing.

Its construction requires the skill of the best mechanic as it is necessarily an instrument of exactness and precision. Carelessly made it would prove a source of great danger to the patient.

The *écraseur* and the *angiotribe* are identical in purpose. The vessels at the point of greatest pressure have their inner tunic ruptured, which incurvate, resulting in the formation of a clot. The *écraseur* is more easily handled, weighing only a pound and a half, and can be used in a very limited space and in any direction. The *angiotribe* is broad and straight, weighing over three pounds, and is difficult to manipulate.

All who have worked in the field of intra-pelvic surgery must appreciate the difficulties and disadvantages which are often encountered in the application of ligatures; and any means which accomplishes their work, at the same time doing away with the pain and danger which they occasion, should be welcomed. To properly apply a ligature deep in the pelvis is not an easy task, especially for a beginner; and the fingers are often cut, exposing them to any infection that may be met with.

If the ligature be not drawn sufficiently tight, or if it be cut too close to the knot, or the tissues cut too close to the loop, hæmorrhage will recur.

When the *écraseur* is used, the material with which the vessels are closed is a part of the body and cannot slip. The individual's system will take care of its own crushed tissue more kindly than it will the devitalized tissue of another animal. There is always a possibility of the ligature being not perfectly aseptic; but the *écraseur* can be easily and thoroughly cleansed. When silk ligatures are used in securing the pedicle, and their ends are passing through the wound, so that when sloughing occurs they can be removed, they often become a source of great annoyance to the patient. I have repeatedly seen a bundle of these ligatures hanging in the vagina after a lapse of two, three, and even six months, and it is my good fortune to have a case now under my care which was operated on two years ago for the removal of an intra-uterine tumor. A No. 12 braided silk was applied to the pedicle, near the fundus, and the ends allowed to hang out of the cervix. This ligature had failed to slough away and had occasioned a constant and offensive discharge, for the relief of which the patient sought my advice. It was removed by Dr. Cleveland and myself, and I now have the pleasure of exhibiting it.

When a ligature is passed through a considerable quantity of tissue, as, for instance, the broad ligament, and tightened sufficiently to secure

the vessels, very great dragging upon the surrounding parts results. It is this bunching together and dragging upon the tissues which causes severe pain. The tissue is only strangulated and not devitalized, and the nerves about the loop are in a state of constant irritation. The pain resulting is Nature's protest.

The hysterectomy clamp possesses certain advantages over the ligature as it immediately devitalizes tissue and can be removed after several hours, but its weight occasions dragging, and, necessarily, pain, and its removal is generally accompanied by inconvenience and annoyance to both patient and surgeon. The ideal method is one which will act immediately, insure hæmostasis, reduce to a minimum pain and the possibilities of introducing sepsis, and which leaves nothing to be subsequently removed. The application of pressure seems to hold out to us the hope of reaching this goal.

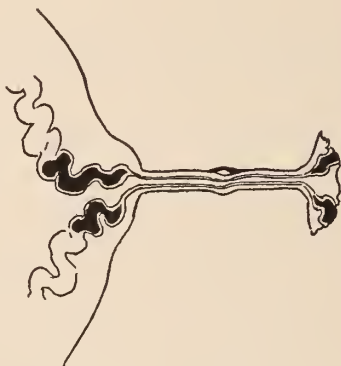
Secondary hæmorrhage has been known to occur several days after the application of the ligature. Under these circumstances, it is probably due to the weakening of the vessel-walls though the sloughing process about the ligature.

The écraseur has limitations. When it is desired to remove an organ or tumor, there must always be sufficient structure between the organ or tumor and the remaining tissue to be completely surrounded and compressed. Weak, degenerated, or friable tissue, such as we find in malignant growths, break down easily under pressure and bleed. Under such circumstances, it becomes necessary to use a suture, passing it into the surrounding firmer structure. The surgeon is called upon here, as under all other circumstances, to use his judgment. The tissue should be cut away before the blades are released, and at about one-eighth of an inch, or more, from the compressed area, so that a stump of uncompressed tissue remains, which will act as an additional barrier to the escape of blood. The appreciation of the value of this additional barrier depends upon a knowledge of the anatomy of the veins and their physiological action when crushed. From an anatomical standpoint* "the main difference between the veins and the arteries is in the comparative weakness of the middle coat of the former. . . . In the veins, immediately above the capillaries the three coats are hardly to be distinguished. . . . In the veins next above these in size, a muscular layer and a layer of circular fibers can be traced forming the middle coat, while the elastic and connective elements of the outer coat becomes more distinctly perceptible." When a vein is crushed it acts as does an artery, only in a more feeble and imperfect way, as it is less

* Gray.

contractile. The inner coat is ruptured and retracts into its sheath when the arrest of hæmorrhage is begun. The process is slow, however, as compared to the arterial hæmostasis, as it is not completed until coagulation takes place in the vein and about its orifice. If the tissue be cut away close to the blades, either by cautery or sharp instruments, I have observed that after a certain time there is a tendency to the separation of the compressed tissue and a slight oozing from the cut surface. This I attribute to the fact that veins do not completely and immediately close under temporary pressure, and consequently leak into the compressed area, gradually separating and partly obliterating it.

If a line of tissue is allowed to remain on the outside of the blades there will take place in the vessels of this stump the same physiological action which takes place in the vessels of the tissue connected with the



A schematic drawing of crushed tissue.

body, *viz.*, the separation and retraction of the inner coats of these vessels, but in an opposite direction. Another barrier to the escape of fluid is thus formed which is quite as serviceable as the first. The force of the blood upon meeting it is greatly diminished by the impediment already offered in the partially ruptured blood-vessels of the other side as well as the resistance offered by the intervening compressed tissue.

It is always desirable in vaginal work to use gauze, for the reason that its contact with the cut surfaces encourages clotting about the vessels if oozing should occur. It protects the peritonæal cavity from infection which might be lurking about the stump of a diseased tube. It encourages drainage and is an indicator in regard to hæmostasis. It can be removed without danger of a resulting sinus, and with but little inconvenience to either patient or surgeon. As it is of inestimable value

when needed, and as its effects are never deleterious I prefer its systematic use.

Appended will be found the history of the only case upon which I have used the écraseur.

I would remind you that the method herein advocated is but in its experimental stage, having to its credit only about one hundred cases in all. The number is small, but the results are encouraging. I am convinced that the time is not far distant when the profession will more fully appreciate the importance and possibilities of Doyen's work. In this paper I offer the results, supported by the more extensive practical experience of others, of my original work based upon and the outcome of the ordinary artery and hysterectomy clamp. The principle advocated is but the expansion of an old idea. To bring into existence an absolutely original idea is as impossible as to create something out of nothing. We, at best, can but build upon what has already existed, and our noblest efforts can attain only improvements. The law of evolution governs intellectual as well as material things. Every new idea depends upon some foregoing thought and is the outcome of it as is the child of its mother. Universal evolution is a fact; spontaneous generation a phantom, a delusion.

Case I.—Mrs. B., aged twenty-six, two children, youngest five, consulted me one month ago for the relief of pain in the side, backache and extreme nervousness. She had recently had an attack of pelvic inflammation and digital examination revealed a retroverted uterus, with prolapse of left tube and ovary. Her menstruation was regular but very painful and scant. I advised removal of the adnexum, and on February 3, 1899, assisted by Doctors Cutujian and Abkarian, I made a posterior-vaginal section, broke up adhesions, surrounding tube and ovary, to the pelvic floor, brought them out and applied the écraseur, allowing it to remain several minutes, then cut away the tube and ovary about an eighth of an inch from the blade, returned the stump into the pelvis and packed with gauze.

Patient was put to bed in good condition, and on my return five hours later, I found her sleeping soundly, which she continued to do all night, and during her entire convalescence was absolutely free from pain. She made an uninterrupted recovery and was dismissed in two weeks.

The specimen which I exhibit to you shows an obliteration of the frimbriated extremity of the tube, and a sac which contained about a teaspoonful of bloody fluid.

Patient expresses herself as being entirely free from her former symptoms.

IMPERFORATE ANUS, WITH REPORT OF CASES.*

BY V. A. ROBERTSON, M.D., BROOKLYN, N. Y.

Congenital malformation of the rectum and anus are of great rarity, although there are widely differing statistics given by various writers, at one extreme as low as one in 2000 births, and at the other, one in 7300; but a fair average, according to Cripps, in his work on "Diseases of Rectum," would be, one case in 4500 births. Of the various classifications, Bodenhamer's is the most comprehensive:

1. Narrowing of anus and rectum without complete occlusion.
2. Closure of anus by a membranous diaphragm.
3. Entire absence of anus. Rectum ending in blind pouch.
4. Anal cul-de-sac properly formed, but rectum terminating in blind pouch a variable distance above.
5. Anus absent, and rectum empties by a fistulous opening at any point in perineal or sacral region.
6. Anus absent, and rectum empties into any portion of genito-urinary tract.
7. Rectum and anus normal, but ureters, uterus, and vagina empty into rectal cavity.
8. Total absence of rectum.
9. Total absence of larger intestine.

These malformations occur in early fetal life from arrested development.

Cripps states that in those cases in which the anus is entirely absent, the rectal-pouch is close beneath the skin, but in two cases that came within my observation this did not occur; in the one of which I can give the fullest clinical history, the rectum terminated fully $2\frac{1}{2}$ inches above the normal outlet.

Prognosis varies according to the nature of the malformation, those cases in which merely a diaphragm obstructs the lumen of the gut, we can expect will do well; but when the intestine terminates a long distance above, or is entirely absent, the outlook is more gloomy.

In 100 cases tabulated by Cripps in which operative procedures were performed, there was a death-rate of 50 per cent., of which peritonitis and failure to reach gut were the chief causes. The mortality being so high, and results of interference so unsatisfactory, the advisability

* Read before the Kings County Medical Association.

of surgical measures to give relief has been questioned by many operators, the objection being chiefly the liability of a contracted anus kept open with difficulty, or the disgust and annoyance of an artificial anus in groin or elsewhere.

There are, however, many well-attested cases of successful surgical treatment; and the only point to be considered is, that if an operation is not speedily performed, death will quickly ensue, when obstruction is complete.

Diagnosis.—It is well always, as a routine measure, to examine carefully every new-born infant, and if meconium is not fully voided within twenty-four hours, to ascertain the cause. In many cases the deformity is easily recognized, especially when the anus is absent, or when the fæces escape through genito-urinary tract. The malformation is not so evident when anal cul-de-sac is well formed, but an exploration of this will show its non-communication with the gut.

As to the distance the rectal-pouch may be from the perinæum, we may at times find a bulging, fluctuating tumor at anal site, or may only discover gut by deep pressure of index-finger over anal region, while the other hand is pressed on abdomen. In female infants the vagina is a route through which exploration can be carried.

Treatment.—An operation should be performed without delay, although some writers advise waiting until rectum becomes distended and thus more easily discovered.

Those cases in which an opening exists, even if in an abnormal situation, do not require as much haste in treatment as when obstruction is complete.

The anal site should always be first tried, as in many instances the rectum is within easy reach at this point. The older surgeons were in the habit of using a trocar to find the gut, but this needs only to be mentioned to be condemned, as there was always danger of opening peritonæal cavity, or injuring bladder or uterus.

An incision should be made in the median perinæal line over anal site, and dissection carried carefully downward till the gut is reached, which when found is to be sutured to perinæal wound. It has been found when the gut was not brought down, to give a mucous lining to the canal, there was danger of fæcal extravasation, and persistent contraction followed.

The perinæal route offers some difficulty from the smallness of pelvic outlet in the newly born. Bodenhamer gives diameters between the born points varying 1 inch 1 line, to 1 inch 3 lines.

When after a diligent search the rectal-pouch is not found, although

to facilitate this the coccyx may be removed, the gut should be sought for elsewhere, and opened preferably in left groin.

Van Buren advises that dissection should not be carried beyond $1\frac{1}{2}$ inches' depth in perinæum.

After the opening has been made in groin, the rectal-pouch may be sought for at some subsequent occasion.

In two cases narrated by Mr. Owens, three months after a successful inguinal colotomy, attempts were made to establish anus in perinæal region, but in both of these death resulted from shock and peritonitis.

The general consensus of opinion seems to be to avoid any farther interference when an artificial anus is successfully made in abdomen.

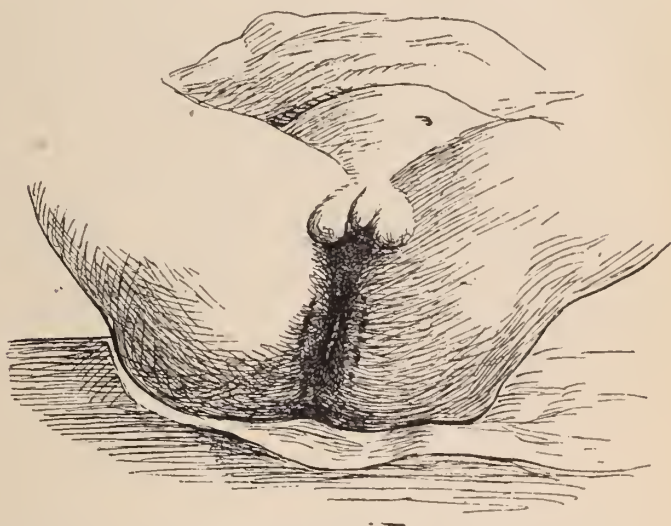
In spite of this, attempts to establish anus at normal outlet are sometimes justifiable, as there have been some successful cases reported. This may be done by passing a flexible probe or bougie from inguinal opening down into rectum, and may show cul-de-sac in such a situation that an opening can be made at anal site.

It has been my fortune to see three cases of imperforate anus, illustrating the ease, or difficulty, with which measures for relief may be accompanied. The first two cases were met with while on house-staff of the New York Hospital, West 15th street, New York. In one, the child was about four-days old on admittance, and inspection showed merely a dimple at anus, a septum dividing it from rectum.

An incision of merely a $\frac{1}{2}$ -inch in depth exposed gut, which was sutured to perinæal wound. There was some tendency to contraction, but this was readily overcome, and several months later child was doing well. In the second case the anus was absent, and as diligent search through perinæal incision failed to discover rectum, the intestine was then opened in left groin. The child had gone nearly a week without relief, and was in extremis on admission, and death ensued a few hours after operation.

The third case occurred in private practice. During my temporary absence from city, Mrs. F. was confined, September 7, 1895, with her sixth child. She was attended by one of my colleagues, and labor was in every way normal. The deformity was at once recognized, and on my return to the city that evening consent was gained to an operation, which was performed by me some twenty hours after birth. As to the cause of this malformation, I may state that when six-weeks' pregnant Mrs. F., while walking on the street, had a severe fall, coming to ground on buttocks. All through her pregnancy she had frequently attended to the application of a truss for relief of hernia in one of the older

children. She had grieved excessively over this, and feared that the child she was carrying might be disfigured in some manner. Can it be that this persistent maternal impression, or the fall, or both, have been the inciting cause of this deformity? Inspection of the infant showed skin stretching unbroken from scotum to coccyx. Anus entirely absent. There was also an accompanying deformity of genitals, which the sketch and photograph will show. A cleavage of scrotum, each lateral half containing a testicle. Penis bound down by adhesions to scrotal cleft, hypospadias also present. At time of operation the child had already



Sketch of patient immediately after operation, showing sutures in position. Gut at anal orifice, also deformity of genitals.

shown signs of uneasiness, as it was fretful, crying, straining, and evidently in pain.

Operation.—A few whiffs of chloroform were given, and child placed in lithotomy position. With perinæal-raphe as a guide, a longitudinal incision about 2 inches long was made over anal site; this was later increased to 3 inches, as more room was required. Dissection was slowly carried downwards, but rectum was not found until a depth of $2\frac{1}{2}$ inches was reached, when a fluctuating tumor, with dark, glistening surface, was seen at bottom of wound. This protruded when child cried, and on being opened, meconium escaped. The child seemed immediately relieved when the gut was opened, and ceased crying. The intestine was now dissected up with finger, brought down, and fastened to

perinæal wound with four sutures. A suture was also placed above and below anus to approximate in a measure the edges of incision, but room was left for drainage, strips of iodoform-gauze being used for that purpose.

The subsequent history of case was uneventful. The sutures of intestine gave way on fifth day, but adhesions had already taken place, and gut retracted only a short distance. The canal was kept open by a daily introduction of the finger, and attendance was discontinued some three weeks later, strict directions being given for this daily dilatation.

On November 24th, some ten weeks after birth, I was sent for, and found that the anus had contracted down to a fistulous opening, barely admitting a probe, and through which the baby had great difficulty in emptying the bowels. On questioning it was found that the daily dilatation of finger had been discontinued for some weeks. The opening was dilated without difficulty, and for this purpose I found a steel uterine dilator answered the purpose very well. The tendency to contraction shortly after this passed away, but the introduction of finger at intervals was continued until child was a year old. At no time had the child any difficulty in retaining control of bowels, and at the date of this writing is an active well-nourished child, three-years and six-months' old, the anus now readily admitting little finger.

777A Union Street.

EARLY DIAGNOSIS OF CANCER OF THE PELVIC ORGANS.*

BY C. C. FREDERICK, M.D.,

Professor Clinical Gynæcology, University of Buffalo; Surgeon-in-Chief, Buffalo Woman's Hospital.

It has been said that western New York lies in a cancer belt. However true or false the assertion may be that any part of the country produces more cases of cancer in proportion to its population than is common, we do know that malignant disease in this section is very prevalent. Seeing as we do so many cases of cancer involving the genitalia of women, most of whom have passed the period of the disease when any operative procedure offers them a chance for relief, I thought it not inappropriate to speak upon the necessity of early diagnosis of cancer, especially as involving the genital organs of women.

The uterus and the ovary are the two organs most frequently involved, the uterus being first in point of numbers. The tubes, vagina, and external genitalia are rarely the seat of primary cancer. Any new growth of the external genitalia receives early attention because the tumor can be seen and felt. If new growths of the internal organs could be inspected so easily they would not be neglected as they are. So long as the patient has no pain and so long as she can see and feel nothing wrong, blissful ignorance reigns supreme. Hæmorrhage, coming profusely at periods or almost incessantly, does not worry her. If she is anywhere near the time of the menopause, all her old-lady friends will tell her that hard flowing-spells are just what she may expect; she takes the old lady's word for it, and neglects to consult her family physician. I have known her to consult her doctor, and he, too, has told her the same little fairy-tale. All profuse losses of blood from the uterus do not mean malignant disease, but all protracted, excessive losses of blood mean some pathological cause. It may not always be local in origin, it may be due to constitutional causes, but the local causation exists in so large a percentage of the cases, that it may almost be taken for granted to exist. Hæmorrhage here is like a red flag elsewhere—a danger-signal. I grant that a woman in the "dodging period" of the menopause may have a too profuse and too prolonged menstrual flow, when she, perhaps, has not menstruated for

* President's address, Western Branch, New York State Medical Association, May, 1898.

two, three, or four months before. It is only natural to expect a profuse flow after so long a cessation. The excessive flow here is not a danger-symptom, because the woman has lost no blood for two, three, or four months, and now she flows for, perhaps, ten days, to make up for the losses she would have had if menstruating regularly. If this woman, however, were to flow ten days every two to three weeks the loss would mean probable trouble. It is the very fact, that women do have irregular, at the same time profuse, spells of flowing during the menopause, which leads the laity astray. They do not discriminate between flow profuse every two to four months and frequent or constant profuse discharges of blood. The time-limit escapes them. Return of bloody discharge from the vagina, if it continues for any length of time, occurring in a woman who has well passed the menopause, is to be interpreted as probably symptomatic of malignant growth of the uterus. Benign growths, such as submucous fibroids, or cervical polypi, may be the cause of the hæmorrhage, although rarely at this time of life.

Pain is not an early symptom in these cases. If it were, they would seek relief early. It is firmly implanted in the popular mind that cancer from the beginning invariably causes pain. When pain becomes a prominent symptom in cancer of the uterus or ovary, there is not much to be done for the patient surgically. Pain in cancer of the uterus occurs only when the tissues outside of that organ have been invaded, and the possibility of complete removal of the malignant growth is past. Cancer of the ovary seldom causes pain until it has made malignant attachments to the peritonæum and invaded the subperitonæal structures. Hence, the absence of pain is not to be considered in the diagnosis.

The age at which malignant growths occur is full of interest, because we are taught that the years of the menopause, when degenerate changes in the pelvic organs begins, is the time at which we may expect the onslaught of cancer. Clinically, cancer is found to exist in the female genitalia long before the menopause, in a goodly percentage of women so afflicted. I have seen cancer of the cervix uteri at twenty-six in a virgin. I have operated upon many women before forty for this dread ailment. Sarcoma of the endometrium is an especially rapid and extremely malignant growth in young women. A special form of sarcoma, known as the deciduoma malignum, which generally follows closely upon labors or abortions, is a disease incident to young women during the child-bearing period. In the majority of the cases which have been reported, death has followed in from three to six months. All not operated died. Forty-five cases have been reported—undoubt-

edly there are hundreds of others unreported. They have mostly occurred in women under thirty, seven of the forty-five being under twenty-five.

All new growths of the ovary, whether they are cystic or solid in character, are liable to and frequently do have malignant degenerations. Ordinarily, no symptom pointing to the malignant change in the growth shows itself till ascites or pain develop. Ascites is quite a constant result of malignant degeneration of ovarian growths at the time the malignancy attacks the peritonæum.

Any growth in the pelvis, therefore, that has associated with it ascites may be suspected. But ascites does occur in conjunction with benign growths from pressure. In malignant tumors the ascites is the result of irritation of the peritonæum.

From the fact that ovarian growths are prone to malignant degeneration, it is always wise to counsel their early removal. The same cannot be said of myo-fibromata of the uterus. They are not so prone to malignancy, therefore, from this standpoint, are not sources of so much danger. I have seen three cases of malignancy in fibroid tumors. Others have been reported, but they are the exception and are rare—while malignancy in ovarian tumors is common—far too common for the good of the patient and the peace of mind of the operator.

Two portions of the uterus are the most common seats of malignancy. (1) The vaginal portion of the cervix and the cervical canal, and (2) the endometrium of the upper zone of the body. Cancer affecting the mucous membrane about the external os uteri and the vaginal portions of the cervix is easily recognized, early in its career, if examined carefully. The feel is characteristic, the symptom, hæmorrhage, is characteristic. All that remains is a positive diagnosis. If the growth be within the cervical canal, it may not be seen or felt by the examining finger. I have seen such a growth invade the whole cervix without causing much enlargement, and invade the walls of the bladder before the growth could be made out by vaginal examination. Yet the patient had the characteristic bleeding for months before diagnosis was made. If the growth be in the endometrium, certainly it cannot be felt by vaginal examination. Still, the characteristic hæmorrhage is there in the history of each case. The uterus may or may not be hypertrophied. It is seldom or never painful or tender.

These facts before us, how are we to make a diagnosis?

In the case of the suspicious cervical growth, put the patient on the table, before a good light, expose the cervix, catch a piece of the suspected growth in a pair of tissue or other forceps, and cut it out with a

knife or scissors. It will cause little pain, and will not bleed much. If desired a 10-per-cent. solution of cocaine may be placed upon the part to be cut. A piece of gauze tamponed against the cervix will check all oozing.

If the cervical canal is to be investigated for suspected growth, then a sharp curette will procure enough scrapings for diagnosis. The same procedure should be followed for the suspected endometrial growth. In any or all of these cases an anæsthetic to primary anæsthesia may be necessary and desirable, especially in sensitive and nervous women. The specimens then should be placed in alcohol, cut in sections, and examined by some one competent to pass upon their histological structure. The one examining should always know the part from which the growth was taken. The percentage of recurrence after removal of intra-abdominal malignant growths not yet having formed adhesions to the peritonæum is small. These growths when removed early give a fine prognosis. When they have made adhesions, however, they will recur every time.

Hysterectomy for cancer of the uterus has given about 40 per cent. of non-recurrences; early diagnosis and early operation before the peritonæum or the lymph-channels were invaded are the reasons for non-recurrence. The longer the lymph-streams are exposed to infection the more liable is the growth to recur.

Early diagnosis and early operations are the watchwords if we are to save these women. It devolves upon every practitioner to inculcate in his patients the principles of preventive medicine. The laity in general look for curative medicine, and only those who are better educated and more advanced have caught the spirit of the times, and appreciate that the doctor is often better to advise how to prevent a disease than he is to cure it.

In Germany the fact that uterine hæmorrhage is a sign of something wrong has been so thoroughly taught to their women, that the majority present themselves early at the various clinics if bleeding. Out of all the many patients whom I have seen in the various European clinics with cancer of the uterus, I do not remember to have seen but three who were too far advanced for operation. In this country I have not seen one in five who was not too far advanced to operate upon with any hope of removing all diseased tissues. Many operators here and elsewhere in this country have told me that their experience in that regard is the same as mine. Many of these women tell me that they went to their doctor months ago. One said it was the change of life and she would be all right when she was past that, and made no examination to ascer-

tain if anything was wrong. Another told her she had an ulceration and needed treatment, and he treated her cervical canal with iodine, caustic, and glycerin tampons till her pain became so intense that she became discouraged and went elsewhere. It was too late. Still another was examined by the doctor, and, not finding anything wrong with the cervix, he said she had nothing to worry about, to take some hot douches. He did not seem to suspect that she might have a growth intra-uterine which was doing all this bleeding. Another saw this last woman and curetted the uterus, did not save the scrapings for examination, and promised that the curettage would cure her.

In a month or so the bleeding returned, and, continually getting worse, she too went to others, till finally a diagnosis was made; but it was too late. We must teach American women that too frequent and too profuse bloody discharges from the genitals means danger, and educate them to consult the doctor early. We must rouse the family physicians throughout the length and breadth of the land to the appreciation of the facts, that cancer is insidious, yet, so far as the uterus is concerned, always showing its bloody hand. We must arouse them to put into practice what they know, that an early diagnosis of cancer and an early operation gives the best and only promise to the patient.

We must arouse the family doctors to the realization of their duty to their patients. If the doctor says she must be examined, and then, if he examines her carefully and thoroughly, and gets sections or scrapings for competent microscopical examination, he will have done his duty then, and only then.

Much of the neglect of patients at the hands of the profession is not from ignorance so much as from carelessness, and inexact methods of dealing with patients. Too much stress is laid upon history and not enough attention given to physical examination.

Only the worst fool of a woman will fail to submit to a most thorough examination, if her doctor insists upon it, and shows her the absolute necessity for it.

The medical profession itself is at fault in this matter, and if these few words should lead any to a more thorough appreciation of the situation, I shall feel amply repaid.

64 Richmond Avenue.

THE MANAGEMENT OF LABOR CASES IN PRIVATE PRACTICE.*

BY ALLEN M. THOMAS, M.D.,

New York.

In a negative reply to my request, of one of our esteemed members, to officiate for me, in behalf of your better entertainment this evening, came the suggestion that a practical paper considering the modern work in obstetrics at our patient's home was desirable.

Impressed with his suggestion, let me hope my efforts to pursue it will be in accord with the idea of my hypnotist, and the theme prove one with sufficient material for discussion.

Allow me to present, then, not so much a paper for your instruction, as some familiar topics for your consideration, carefully including the "little things," with the hope that an interchange of ideas and narration of methods evolved from our personal experiences, may prove of mutual benefit to both our clients and ourselves.

Modern obstetrics demands not only the skilful management of the patient in labor, but also a careful preparation of both physician and patient for all the possibilities of that labor, both before it is undertaken and after it is accomplished.

Its latest development has been obtained through the inauguration of the wholesome teachings of the bacteriological era. *

The great resultant strides in the principles of the practice of obstetrics are within the easy recollection of us all, and doubtless not a few have had the personal experience of practice in both the old and the new way.

A moment's recall of the period of our early work should be interesting.

The history of American obstetrics is virtually covered in the work of the past 100 years.

Its first literary effort (commendable treatises for the instruction of midwives, and translations and compilations of foreign works in obstetrics) was made at the very opening of the century.

Dewees is the best known in this pioneer work, while Jackson, Meigs, Sims, Barker, and Lusk share with others the honor of its brilliant subsequent achievements. The present comparative host of living obstet-

* Read before the New York Obstetrical Society, February 14, 1899.

ricians, doubtless inspired by the achievements of their former predecessors and stimulated by the progressive spirit of the times, seem nobly pregnant with literary and scientific productions, judging from the frequent issues of their laborious travail, that are in numbers as startling as their prolific birth of new works are interesting and instructive. At the moment two, and by no means the least important, productions are on our table, published by members of this Society, bearing fulsome evidence of careful observation, faithful work, and skilful authorship, most praiseworthy to them, and fitting monuments to this Society, and the healthful status of American obstetrics at the end of this wonderful period of its development.

Previous to the last quarter of this century, where true statistics could be obtained, a result of 8 to 12 per cent. mortality of mothers in lying-in institutions from childbed fever was usually obtained.

Ophthalmia neonatorum, resulting in partial or total blindness; broken breasts, infected cords, thrush, and stomatitis, were common in private as well as in hospital practice.

The prevalence of these ills, while more or less dependent upon individual care and cleanliness, was, nevertheless, universally excessive.

The introduction of the antiseptic practice, promulgated by the startling announcement of Semmelweiss about the middle of the century, inaugurated the first move toward better practical results.

The formation of a careful antiseptic practice, through this influence of the Vienna school, and the discoveries of Pasteur and Lister, finally, though somewhat tardily, gained a foothold here, and once established, its subsequent development was rapid. Mortality-rates were reduced to a surprising extent.

In my own practice at the Emigrant Hospital a score of years ago, and previously recited to this Society, the mortality from sepsis was speedily reduced from 8 per cent. to a fraction of 1 per cent. During the last decade, however, through the further efforts of the combined work of the clinician, pathologist, and bacteriologist the doubts previously expressed regarding auto-infection, have apparently been settled, and the aseptic practice against hetero-infection wisely established. In the practical application of this dogma, that all infection comes from without, we have developed the details for absolute surgical cleanliness in bedside work, which in private practice, as well as in institutions, virtually accomplishes the prohibition of all infectious diseases.

Along with this great innovation in handling (the boon of ills averted by means of their prevention) has sprung up a great revival of

interest, with the result of more scientific work, greater possibilities, and better results in *every* department of the obstetrician's work.

You will pardon this apparent digression, since it renders by contrast the present better results more forcible, and, if possible, emphasizes the good of following the added demands of our present practice in order to obtain its beneficent results.

Let us congratulate ourselves that we were born to live in this age of progressive activity in medicine, and in one way or another, strive to add our mite to the mountain of its achievements.

With these introductions, we pass to the direct consideration of our subject.

The ground to cover is so extensive that the allotment of time will scarcely permit more than the simplest narration of routine practice; but an amplification of detail, in methods open for discussion, seemingly desirable, please pardon my presumption upon your good nature and permit me a short extension of the time limit.

For convenience, we will separate the duties of the obstetrician to his private patient into:

Anticipatory duties during pregnancy.

Active duties of the labor.

Duties to the mother and child subsequent to the labor.

While this naturally recalls the usual text-book classification of pregnancy, labor, and puerperium, the present intention is to utilize these periods, in so far only, as they bear upon our routine practice in the management of an ordinary case of labor. In other words, a consideration of the so-called diseases of pregnancy, and the treatment of actual complications of labor and the puerperium, does not, at present, interest us.

For the fullest development and best possibilities of modern obstetrics an early engagement of the physician, his continued surveillance during pregnancy, with suitable conditions and appliances for the work of the confinement, must be assumed.

The old practice, not altogether extinct, of being timorous about encroaching upon the false modesty, or weak in antagonizing the preconceived, prohibitory notions of our patients, is suicidal. It simply entails the sacrifice of every good principle of modern obstetrical work, and the physician to-day who practises such slovenly obstetrics is gravely culpable.

With the desire of inciting a frank discussion, the recountal of the details of my own practice is undertaken, with the hope that it will

borrow improvement from both the pruning of just criticism and the expansion of good suggestion.

A concise and complete obstetrical chart being at hand, the blanks are filled out carefully in each case. This serves not only as a convenient aid to our routine duties, but also a valuable statistical history for subsequent reference.

As one may readily be found in the modern text-books, I spare you its recital here.

The history of the child is kept on a separate card, which is traced by an average-weight line and has provision for weekly weighings for the two years of infancy, together with a space for notes on diet and general condition.

Assuming our patient in the early months, the routine is as follows:

We give directions for her hygiene, including the details of exercise, work, recreation, diet, clothing, baths, care of breasts, regulation of bowels, and hours of sleep and rest, including special reference to her recurrent periods of resting.

Suitable provision is made for frequent analyses of urine, by an expert chemist, obtaining with fixed regularity both 24-hour and single specimens from the patient for this purpose.

Personal attention is given to the engagement of a suitable nurse.

A careful pelvimetry is done early in pregnancy, and in the latter months, the practice of palpation and auscultation is had more or less frequently, with careful regard to the contents of the womb, viability and position of the fœtus, and relative proportions of head and pelvis.

A selection of a room is made for confinement, where quiet, space, sunlight, heat, and ventilation are suitable to all the possible requirements.

A so-called "obstetrical outfit" is supplied, which shall be known to contain every article the physician requires for his special practice. This is ordered sent to the patient's home at least a month prior to the date obtained from the "reckoning."

Routine antiseptic douching in the latter weeks of pregnancy, and the routine anti-partum douche at the time of labor, is suspended, but the absolute abolishment of such douching is not at present entertained.

On the contrary, it is still practised, with due precautions whenever clinical conditions in the way of profuse leucorrhœal discharges of an infectious nature seem to indicate the inefficiency of the natural germicidal secretions of the vagina.

A bountiful supply of sterile water (hot and cold), sterile towels,

and conveniences for the use of the methods adopted for the sterilization of the hands of both physician and nurse is provided for.

A suitable arrangement is made in advance for the reception, treatment, and after care of the infant, including the engagement of special appliances, such as an incubator, or wet nurse, whenever a careful prognosis suggests their need.

A complete armamentarium is kept in the ever-ready obstetrical bag, including crotch, rubber gloves, Esmarch chloroform inhaler, a clean, freshly laundried white duck suit or gown, and instruments for the repair of the perinæum, as well as those articles commonly needed in the way of forceps, drugs, etc.

Inquiry is made at the patient's home regarding the conveniences for the sterilization by boiling of all instruments.

A strong, narrow bed, with hard mattress, is secured, and blocks provided at the time of labor, for raising it to a convenient height for the delivery.

Sexual intercourse is restricted in the early, and prohibited in the late, months.

And finally a wholesome general surveillance of the patient is continued throughout her pregnancy, and her mental condition made a subject of especial solicitude.

A good morale is instituted both by intelligent instruction of the patient, especially if she be a primipara, and thoughtful shielding her *from*, or laughingly dispossessing her mind *of*, all obstetrical gossip, frequently reassuring her against demoralization from the instinctive fears and apprehensions for her safe delivery.

The fact of the nobility of her undertaking is impressed upon her, wholesome pride inculcated in it, and she is quietly urged to a desirable reliance upon herself for its accomplishment.

No more serious blunder can be made than to permit the preconceived notion among many women of modern society, that the bridge of labor can be crossed upon a soft couch of unconsciousness, while the disastrous meddlesomeness of the obstetrician is substituted for the good physiological efforts of her natural travail.

Spare her pain, but also spare her meddlesome interference and its hazard of ill results.

It is in these wise directions and forethoughts for the anticipated labor that the science of modern obstetrics especially excels, and too much stress cannot be laid upon their routine practice.

Passing to the management of actual labor, we find the obstetrical outfit and the accoucher's bag supply the usual articles required in the

lying-in chamber. The preëngaged nurse is with the patient. The elevated narrow bed is at hand. A table for instrumental delivery may be procured, and a chair easily obtained, if necessary, for either posture or operating purposes. Everything in anticipated readiness for the accoucher, he can, at his pleasure, prepare himself for the examination of his patient.

At this point the most painstaking care is necessary.

Bacteriology has plainly pointed out our way, and practical experiments have clearly mapped out the methods. Of the latter we may choose from several, all doubtless equally good.

My own practice of preparation for work at the bedside during the past five-years has been as follows:

A freshly laundered white duck suit is worn.

The hands and forearms are first carefully scrubbed in a basin of hot water with ethereal green soap, and sterile brush for five minutes. The nails cleaned with manicure stick.

A second scrub in a $1/2000$ corrosive-sublimate solution for three minutes, and the fingers then immersed in absolute alcohol for one minute. This is followed by a three-minute scrub in a saturated solution of permanganate of potash; the stain is removed in an aseptic solution of oxalic acid, and the hands finally dipped in a $1/1000$ corrosive-sublimate solution.

A basin of warm sublimate solution $1/2000$ is kept at hand, and always renewed after contamination with blood, or other secretion, and used for the purpose of retaining the hands sterile.

When unusual invasion of the vaginal tract is necessary, I prefer the use of the sterile condom-rubber gloves.

The nurse is directed in the care of her hands whenever it becomes necessary for her to assist directly in the labor.

Previous directions are given the nurse for emptying the patient's bladder and bowels, and giving her a tub-bath, when practicable, at the outset of the labor.

The bed for examination and confinement is prepared with a large new rubber sheet next the mattress, covered with a freshly laundered sheet, over this a small double rubber sheet, and finally the draw-sheet.

A sterile, absorbent catch-pad is placed directly beneath the patient as soon as the presenting part appears at the vulva. The toilet of the vulva is made early. All hair in the near vicinity of the vulval opening is removed. A thorough washing with soap and hot water is followed by a $1/3000$ corrosive-sublimate bathing. An aseptic vulval pad is then applied. At the moment of a vaginal examination, and, in

ordinary cases, one or at the most two, usually suffice; the hands made sterile as described, the legs are sheeted separately and widely spread by the nurse; the vulva is exposed; the labia opened with the finger and thumb of the left hand; then, after the parts so held are irrigated with a few ounces of a warm $\frac{1}{3000}$ solution of corrosive sublimate, the necessary fingers of the right hand are inserted with all possible avoidance of contact with the vulva, through the center of the introitus vaginæ.

The nurse is under no circumstances permitted to make a vaginal examination, give a douche, or pass the catheter during labor.

The presentation, stage of labor, viability of foetus, and the general character of the accouchement is determined, and then the question of remaining with her is considered, and its settlement made dependent entirely upon the circumstances of the individual case.

Often a poor morale, or the need of posture in cases of slight disproportion, require our moral support, or prolonged personal attention throughout the entire labor.

A good tact, ever helpful in the lying-in chamber, is unfortunately largely dependent upon our personal equation, but the exercise of a wise and unremitting routine observation of the patient's condition, both mental, moral, and physical, is the common possibility of us all, and will amply repay any sacrifice of either time or energy it necessitates.

The Walcher posture can be easily and successfully utilized without the objectionable table-climbing, by having the patient lie across the elevated bed supported firmly on an ironing-board; for the posture of thigh flexion the application of the crotch to the patient in bed, with the buttocks supported on the ironing-board is also satisfactory, and further aids materially in the convenience of the accoucher in the protection of the perinæum and easy reception of the child.

The delivery is preferably made in the supine position.

The condition of the bladder and bowels, the diet, and medication, the quantity of urine passed, together with the periodic observation of the foetal heart, and the pulse and temperature of the patient is noted from the beginning of the labor, and recorded by the nurse.

Careful aseptic catheterization of the patient receives personal attention when for any reason it becomes a necessity.

Separate sheeting of the legs, and aseptic pad to the vulva, and sterile towels over the thighs and abdomen is the practical toilet of the patient during the second stage of labor.

Anæsthesia by chloroform administered with an Esmarch inhaler

is the choice, carried to the surgical degree only as the presenting part stretches the vulval-ring. The voluntary efforts of the patient thus controlled, the delivery is left, in the interest of the soft parts, entirely to the convenience and judgment of the accoucher, while the patient is justly saved from excruciating pain.

Upon the birth of the head, release of the cord, attention to the mouth, and aseptic care of the eyes, by irrigating with sterile boracic water, are attended to in the order mentioned.

The nurse is then instructed to *gently* hold the fundus, following it down as the birth is completed. The baby resting on its right side, between the thighs of the mother, the cord is ligated with an aseptic ligature, provided in outfit, under careful precautions of cleanliness, and the ligation made early or late, in accordance with the requirements of the infant, in the judgment of the physician. In connection with this matter, let me suggest the wisdom of being provided with two pairs of sterile clamps, to be utilized where occasion demands the cutting of the cord previous to delivery, and a tub of hot water for the immersion of the infant, if attempts at resuscitation are required.

Following the birth of the child, the patient should have absolute quiescence, and artificial efforts at delivery of the placenta abstained from for three-quarters of an hour. During this time an aseptic vulva-pad is applied, and the fundus *lightly* supported, while the patient's head is left low, and she is encouraged to sleep.

The Credé method of expressing the placenta is practised where delivery has not been accomplished at the end of this imposed period of rest.

Following the complete removal of the afterbirth, a drachm of ergot is administered, a firm manual support of the fundus is persisted in, and a period of an hour's rest imposed upon the patient.

A close inspection of the afterbirth is invariably made, and when necessary, a search for, and removal of, any missing portions instituted by manual invasion of the uterus under the strictest aseptic precautions. Good uterine contraction is sustained by continued firm support of the fundus for at least an hour.

The infant is carefully examined, and attention given to its proper housing in a warm blanket, in a temperature of about 80 degrees.

At the expiration of the hour, the patient's pulse and general condition permitting a thorough examination for lacerations is made, and the repair of those in the vagina and perinæum accomplished.

In spite of the urgent recommendation of some good obstetricians immediate repair of the cervix does not strike me as practical.

This work may usually be done without an anæsthetic, though when tears are extensive *ether* should be chosen, and a physician obtained for its administration.

Provision for a hot antiseptic, and aseptic intra-uterine douche is always at hand, but douching after labor should only be undertaken for conditions of serious inertia, or where the uterus has been invaded by instruments, or the hand. A sterilized glass double-current uterine douche-nozzle, and a $\frac{1}{5000}$ corrosive-sublimate solution, followed by sterile water at 115° , from a sterilized fountain-syringe, should be used for the purpose, and the nozzle introduced with precautions similar to those for a vaginal examination.

The nurse is now directed to make a final toilet, including the application of a fresh aseptic vulval dressing, and sterile body bandage, and the patient given some light fluid nourishment.

The room is put in order; the entrance of solicitous relatives and friends forbidden; a final bedside observation made; and the patient left to secure her much-needed sleep.

The nurse is carefully reminded of her special duties in regard to the removal of pads, and handling of the patient.

Warm sterile boracic-acid solution is used for bathing, and the nurse required to sterilize her hands each time, and invariably protect them from all contact with the patient's vulva, by covering the finger and thumb with pledgets of sterile cotton. She is reminded, also, to warn the patient against auto-contact of her hands with the vulva.

The baby's eyes are inspected, and drops of a two-per-cent. solution of nitrate of silver carefully applied through a sterile eye-dropper.

With the physician's retirement, ends the duties we have classed under those of labor.

We now enter upon a new responsibility.

In the tender infant we have a second patient, whose demands upon our attention are by no means small.

Many of the duties to the mother are largely foreshadowed in all that has gone before.

The treatment of puerperal complications is almost entirely prophylactic, and its results should succeed to the degree that promises us little care beyond the regulation of a simple routine of lying-in.

Still, emergencies sometimes arise beyond all control, calling for the exercise of the greatest skill, and consequently one must ever be on the alert.

In narrating the details of this stage of our work, time limits us to a recital of the methods of conduct in a normal puerperium.

The interesting questions of the various complications seen in this period, and the somewhat unsettled methods of their treatment, cannot be considered.

Let us for the present be content with the knowledge that most of these dreaded ills will never be met if the teachings of modern aseptic practice are well carried out.

Revisiting our patient at the end of eight hours, the pulse, temperature, height of fundus, uterine contraction, amount of flow, after-pains, intestinal gas, and condition of bladder are the special points for our observation and treatment.

Distress from intestinal gas, after-pains, and inability to pass water are the most common annoyances met.

Gentle massage of the colon usually relieves the patient of gas.

Squeezing out cloths and supporting the fundus, so as to secure firm contraction at the end of labor, and the routine of an oxytotic capsule, three times daily for ten days, containing quinine, ergot, and strychnine, minimizes the occurrence of after-pain, and, in my experience, aids in promoting a more normal getting up.

Occasionally a mild sedative is given during the first twenty-four to forty-eight hours.

The breasts invariably receive our personal attention.

Nursing is always encouraged, and the great importance of its cheerful undertaking, and its advantages to both mother and child are frankly stated.

Primipara are forewarned of the possibility of painful distention of the breasts during the first days of lactation.

For the after-treatment of the breasts, and the general conduct of nursing, the following points are observed:

A gentle, equable, and continued support of breasts.

Asepsis of skin of entire breast, as well as nipple, before and after nursing.

Cleanliness of the baby's mouth.

Regularity of nursing, both as regards the intervals between feedings, and the time spent at the breast.

Careful asepsis of the breasts and hands, whenever, either expression is practised for over distention, or massage done to stimulate an inefficient lactation.

A good manœuvre for the gradual preparation of the nipples for the safe conduct of their new function is practised in the following routine:

Beginning eight hours after birth, the baby is placed to the nipple

of each breast for *just three minutes*, and subsequently every six hours for the following twenty-four. Between nursings alternate feedings of sugar-water are also given every six hours.

Subsequently alternate feedings of a very weak percentage milk, and nursings of *five minutes* to each nipple are given every *four* hours until the breast suffices, when nursings at a *single* breast are instituted for *ten minutes*, every *two* hours during the day, and once or twice at night.

We gradually extend the period at the breast, as the baby's needs require, up to the usual limit of a twenty-minute nursing.

The baby is not allowed to play at the nipple, or retain it in the mouth when falling asleep at the breast. On the contrary, as soon as the nursing is finished, the infant is gently taken up and placed in its cot.

Daily visitations are made during the first week.

Liquid diet is prescribed the first 24 to 48 hours, and afterwards three light meals are given, with meat only at the dinner repast, preferably in the middle of the day.

A glass of milk and Vichy is allowed between meals if desired.

The patient is allowed to sit up in bed on the fifth day, and helped to a chair on the ninth; on her feet at the end of two weeks; walking at the end of three weeks; and out for a drive as early as her general condition and good uterine involution, as determined by touch, will permit: usually the fifth week.

Of course this routine of the puerperium is subject to much variation, and is simply intended as a general guide *to*, rather than an arbitrary *rule of practice*.

If the patient for any reason be unable to pass her water during the first twenty-four hours, or later, aseptic catheterization may be resorted to, but only after every manœuvre for the patient's voluntary voidance of urine has been exhausted. To this end, if the condition of the patient is not exceptional, the use of the vessel in the sitting position is tried, after eight to ten hours, and often proves efficient when all other attempts have failed.

The bowels are moved, and the use of the bedside commode undertaken at the end of thirty-six to forty-eight hours.

This practice in selected cases, properly performed, adds no serious risk, while it greatly enhances the patient's comfort, aids in the regular performance of her functions, and assists materially the important factor of utero-vaginal drainage.

It will be interesting to quote here from an old work in my posses-

sion, entitled "The Midwife's Monitor," written by Dr. Valentine Seaman of New York, and published in the year 1800.

He says:

"The mother should always set up *in bed* while suckling, and whenever she eats: by this means she will favor the natural discharges from the womb, which, when permitted to stagnate, are often the cause of the most distressing diseases. With the same intentions, she should always get out of bed, within twenty-four hours, or at furthest two days after delivery (if nothing in particular should render it improper)."

In regard to the baby, assuming it to be at the breast, a few words must suffice.

A dry aseptic dressing having been applied to the cor dat birth, its subsequent treatment is to avoid meddlesome handling, and keep it clean and dry.

No ointment, wash, or powder is permitted.

No tub-bath is given the infant until the cord has fallen.

Infant dress is a variable quantity, though my preference is for the loosely applied flannel band, and Gertrude suits made of thin flannel, and the three simple articles of dress slipped on together.

In the early months the baby is carried lying flat on a thin and firmly made hair-mattress.

The erect posture, even with the neck and head supported, is avoided during the first three months.

The *tub* bath is given an hour before the second morning feeding (but not until the cord has fallen), at a temperature of 100 degrees; after the fourth week it is gradually reduced to 95 degrees, followed by rapid sponging of neck, back, and limbs with a temperature of 60 degrees.

The hours of nursing are fixed: two-hour intervals by day, and three at night, for the periods of the obstetrical service.

The nursery should be apart from the lying-in chamber; a well-aired, sunny room, and the temperature of it during the first few days 75 to 80 degrees, and subsequently gradually reduced to a limitation of 65 to 70 degrees.

Water is given at least once daily, from a special bottle and nipple provided in the obstetrical outfit.

This plan is adopted to accustom the baby to the use of the bottle for the greater ease of weaning, when that becomes necessary.

This completes our narrative.

Are physicians familiar with and practising modern obstetrical methods?

With all the light shed upon this branch of our professional work in the past twenty-five years, we find to-day that inexcusable practices, and consequent ill results, are altogether too frequent.

Is this through ignorance, or an unaccountable scepticism of modern teachings?

No stone should be left unturned to render successful the outcome of so sacred a trust as the woman in travail.

Two lives are at stake.

This double responsibility should make us doubly anxious, and not only willing, but even restless, to grasp any offer of help either science or art can furnish.

Conservatism is a rare virtue, if it be wise.

But rejecting modern ideas of asepsis is not conservatism; rather a pitifully radical scepticism.

A wise conservatism in regard to established intra and extra uterine operative measures is justifiable. They are grave procedures, and extreme measures justly applicable to none but extreme conditions.

Conservatism in some minor things is also advisable; have the patients to wait, where to wait is safe, but with this must go that quality of ready and firm decision and fitness to act promptly in a *radical* way whenever the indications demand it.

Finally, let us ever cherish a heartfelt sympathy for our patient, both in the tedious months of her pregnancy, and through the trying ordeal of her sufferings in labor.

Let us likewise encourage at all times the *natural* fulfilment of her noble function, and aid her thoughtfully in the beautiful after-possibilities and grave obligations of Motherhood.

In conclusion, let me plead for the conscientious, serious performance of our work on all occasions, and the cultivation of a habit of watching closely, ever caring for, and never disregarding the "little things."

Permit me to suggest, especially, the following points for your discussion:

1. Use of anæsthetics.
2. Anti-partum douching.
3. Methods of asepsis.
4. Utility of postures.
5. The limitations of pelvimetry and foetal mensuration in estimating disproportions.

TO CONTRIBUTORS AND SUBSCRIBERS.

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EDITORIAL.

THE SURGEON-GENEALSHIP OF THE UNITED STATES.

Since the appearance of our editorial last month upon this theme we have received a number of letters of encouragement, many of them enthusiastic, both from our esteemed contemporaries of the medical press and from private practitioners, among whom we rejoice to find that there are some generous-minded enough to feel and to express interest in the general good of the profession and who raise their heads sometimes and look up from the necessary but sordid task of individual money-grubbing. It is our hope and expectation that in time every individual member of the profession, aroused by the insistent and united voice of the medical press, will look up and realize that he is not alone but is surrounded by a rapidly increasing number of his own kind, all of whom, because each is selfishly indifferent to everything but his individual interest, are being steadily crowded into a narrower and narrower area, where even the present struggle for existence, which is the direct outcome of individual selfishness, will soon cease to be a problem for the many.

It is as one and probably the most efficient means of arousing the spirit of co-operation in the profession that we have defined and urged this agitation for a Surgeon-General and National Health Officer in the Cabinet of the President of the United States, who shall thus not only fulfill an evident requirement of the public good, both in peace and in

war, but who shall stand as the acknowledged embodiment of the dignity and usefulness of our profession. Among the letters we have received on this subject, some have objected that it was impractical, owing to many evident difficulties. One correspondent writes us that The American Medical Association has several times grappled with **this matter in part**, namely, to the extent of demanding a National Health Officer with powers worthy of his duties, and that it failed. We answer that if The Association had been really representative of the medical profession in this country, *which it should be but is not*, it could not have failed. Again, we are informed by a very high authority that the objection to the placing of a Surgeon-General in the Cabinet lies in the necessity of subjecting everything relating to war to the control of the War Department and hence to the Secretary of War. But this again is begging the question. We deny that any such *intrinsic* necessity exists. It does exist under our present laws but we mean to change our laws. As the President is the Commander-in-Chief in war and the Secretary of War is, by law, merely his mouth-piece and adviser, so we claim that a Secretary of Public Health and the Surgeon-General shall also be his direct mouth-piece and adviser in all matters pertaining to this office. Again, we are assured by another correspondent that, should we accomplish our object and place a representative in the councils of the Executive, all the various medical societies will be at logger-heads in regard to representation in his nomination. And this is the burden of most of the objections that the profession will not unite because it is incapable of union—that it is hopelessly, stupidly, blindly selfish and sordid.

Thank God, we do not share in this estimate. We have not hesitated to express our opinion of the profession, as it is and as it acts to-day, but our severest reproaches are born of our firm and unfailing belief in its possibilities—that it will at last recognize the value of its birth-right and claim it. We have held a mirror before it, not senselessly to annoy an imbecile, but that it might recognize its face and feel ashamed.

It is first to the aid of the medical press we look for a successful beginning of this propaganda—the representation of the profession in the Executive Councils of the nation. But finally it can be accomplished only by the individual and united action of all medical men. It can and will become an accomplished fact if every physician will write about it and talk about it, both in the medical press and in the lay press, will explain its necessity and its advantages, from the standpoint of the public good, to his patients that they in turn may use their influence and finally their votes in its accomplishment. It is

estimated that there are about one hundred and twenty or thirty thousand practising physicians in this country. Who can estimate the reach and influence, upon the lay public, of a single sentiment possessing the heart and mind and uniting in a common purpose this immense body of medical men? Is anything impossible under such circumstances to such men?

THE PERIODICAL INTERNATIONAL CONGRESS FOR GYNÆCOLOGY AND OBSTETRICS.

We call our readers' attention to the next Session of this Congress, which is fixed for August 8, 1899, in Amsterdam, Holland. Its importance can hardly be overestimated when we realize that it brings together the most eminent men of all countries for discussion of these branches of science. Especially interesting should this Congress be to Americans, as among its Foundation-Members are many of our famous specialists and in the last Session, held in Geneva three years ago, no nationality was more active or more prominently represented than ours.

Although of recent inception, the Congress was so well conceived and inaugurated that it arose at once upon solid foundations and has before it a future of ever-widening influence and authority. It is with pleasure, therefore, that we help to increase an appreciation of this Congress among American physicians interested in this speciality, to whose knowledge upon these subjects much will undoubtedly be added by the papers and discussions to be presented in Amsterdam.

Among the *Items of Interest*, in another part of this JOURNAL, will appear in this issue an announcement of the subjects for debate as well as other points of information regarding the next Session of this Congress.

REVIEWS.

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 490 pages, 28 illustrations, and 3 colored plates. Lea Brothers & Co., Philadelphia and New York.

The object of these volumes, the first of which is before us, is to sift from the enormous and ever-increasing mass of medical literature the wheat from the chaff—the useful from the useless—and to put that which is worth preserving into form to be used by the practitioner.

The authors have endeavored to avoid a mere condensation of medical literature and have given to their writing the characters of a personal narrative. In this way, with a specialist in each branch narrating the results of original researches, remarkable cases and discoveries, a practitioner can hope to keep up with medical progress.

The first volume contains surgery of the head, neck, and chest; diseases of children; pathology; infectious diseases, including croupous pneumonia; laryngology and rhinology and otology. It would seem to us a more convenient and up-to-date arrangement if each of the four volumes appearing every three months contained a digest of each of the branches of medicine, rather than that their readers should be compelled to wait until June, September or January for the discussion of some particular subject.

The book is of decided value and should have a ready sale.

G. H. M.

Records of Urinalysis: Arranged by HARRY MORELL, M.D. J. B. Burr & Co., Hartford, Conn.

To those who wish to preserve the results of urinary analyses the volume arranged by Dr. Morell will be found most valuable. Each page is printed with the form of the analysis, leaving blanks upon which the results are inserted. By means of carbon-paper the results of the examination are recorded upon two pages simultaneously, one

of which is perforated and readily detached, while the other remains on file in the book.

The name of each patient is then noted in the index.

An oilcloth cover protects the volume from the water and chemicals of the laboratory.

X. Y. Z.

A Hand-Book of Obstetric Nursing: By ANNA M. FULLERTON, M.D.
Fifth revised edition. P. Blakiston's Son & Co., Philadelphia.

The fact that the "Hand-book of Obstetric Nursing" should have reached the fifth edition speaks for its popularity. In this, as in former editions, its teachings have been brought up to the requirements of modern practice.

The importance of cleanliness and antisepsis have been emphasized and duly impressed upon the nurse. One of the most valuable features of this little book is the relatively large space that has been devoted to the care of the infant.

In most books of this kind little attention has been paid to the child.

The volume bids fair to pass through the hands of successive generations of nurses for years to come.

X. Y. Z.

The Principles of Bacteriology: By DR. FERDINAND HUEPPE. Translated by Dr. E. O. Jordan. The Open Court Publishing Co., Chicago.

The author considers the subject of bacteriology to be in a transitional stage. Formerly interest was directed to this subject chiefly from a natural-history point of view and much literature has appeared on this subject. In this volume the practical side of bacteriology is studied critically and scientifically.

The causes of putrefaction, fermentation and disease, with the methods of the prevention and cure of infection, are discussed in such a way as to summarize and utilize the most recent knowledge of these subjects. This volume should be of exceptional interest not only to the physician but to the botanist, general biologist and chemist.

The chapters on "The Cause of Infectious Diseases," "Can Disease be Cured by Combating the Cause?" and "Immunity" are especially interesting and practical. The form, illustrations and typographical work are a credit to the publishers.

H. O. P.

TRANSACTIONS OF THE NEW YORK OBSTETRICAL SOCIETY.

Stated Meeting, February 14, 1899.

The *President*, WILLIAM R. PRYOR, M.D., in the Chair.

A New Method of treating Abdominal or Other Wounds.

Dr. GEORGE ABBOTT of Pasadena, California (read by Secretary). In a recent abdominal section referred to me by Dr. Charles Lee King of this city, who also assisted at the operation, I operated and closed the wound in the usual aseptic manner; then placed a small bit of gauze, upon which was put, from a few drops, to a half dram of formaline 40 per cent.—just under the abdominal bandage, and above the dressings over the mons veneris.

The nurse was instructed to remove this each time the T bandage and vulva-pad were removed, for the relief of the bladder or bowels.

The patient, after the first thirty-six hours, had a practically normal temperature and an uneventful recovery.

On the eighth day the sutures of the abdominal wound were removed, there being a perfect wound in all respects, leaving only the two sutures which suspended the uterus, until the twelfth day.

On that day when Dr. King and I uncovered the dressings before anything had been done to the wound, Dr. A. C. Croftan of Pasadena, formerly of the College of Physicians and Surgeons of Chicago, very kindly took some culture-tests from different parts of the wound, from the mons veneris, among the stubby hair that had sprung up, and one from the under-surface of the small gauze pad which had been placed under the sutures which suspended the uterus—this being a case of ventral fixation with no possibility of future pregnancy—and finally the sub-dermal portion of the suspending suture was placed in the culture medium.

I very much regret that these tests could not have been taken at the first opening on the eighth day; it was, however, impossible.

I herewith subjoin Dr. Croftan's report, which as you will see, shows an absolutely aseptic condition of the wound, skin, dressings, and sutures: "There was absolutely no reaction in any of the cultures."—Croftan.

After taking these cultures, pyrozone was applied to the entire wound and around each suture; but no reaction whatsoever took place. The sutures were then carefully cleansed, the suture-pits filled with pyrozone.

No bacteria, normal temperature, after the slight shock-temperature of the first twenty-four hours.

Of course nurses should be cautioned to wet a small piece of gauze, and not to pour the pyrozone directly upon the dressings, lest it should soak through and blister the skin.

Further experiments along this line in the treatment of general surgical wounds are now being conducted in my clinic at the Southern California Medical College in Los Angeles.

DISCUSSION.

Dr. HORACE TRACY HANKS: We are all much interested in anything and everything which will prevent suppuration in a wound. I judge, however, that most of us have succeeded in accomplishing this by employing bichloride of mercury or peroxide of hydrogen on our dressings instead of formalin as suggested by Dr. Abbott.

I insist upon opening the dressings and pouring in peroxide of hydrogen if I have the least fear that there may be suppuration around a suture.

I shall be very glad to try formalin, and it is possible that it may be a better germicide than either corrosive chloride or peroxide of hydrogen.

The Management of Labor Cases in Private Practice.

BY A. M. THOMAS, M.D

(See page 538.)

DISCUSSION.

Dr. HANKS: I have been especially interested in this classical and scholarly paper. Many of the points brought out and the technique described are of great value. The good gynæcological surgeon of to-day who does obstetrical work has arrived at the same conclusions as the author. No one who does intelligent surgical work would venture to be less careful in making himself surgically clean in the lying-in-room than in the operating amphitheatre. And this is the whole secret of success. And we must insist over and over again to our pupils and to

those who call us in consultation that common sense at the ends of sterilized fingers makes all the difference between a death-rate of $\frac{1}{2}$ of 1 per cent. and a death-rate of 12 per cent.

The rich can well afford to pay for the dry-goods box of sterilized linen, germicides, etc., but the poor—and the poor are always with us—we must go prepared to as faithfully attend. The obstetric bag can easily contain the lysol, the chloroform, the ergot, the majendie, the chloral, the sterilized Kelly pad, the sterilized apron and towels, the cotton, and the vaseline, and the usual instruments together with sterilized catgut. Such a bag I always carry with me when called in consultation to an obstetrical case or to take charge of one. Of course doing so much gynæcological work as well as obstetrical work, I am in the habit of suturing the perinæum and cervix, when badly ruptured, at once. A half-dozen catgut sutures can safely and quickly be inserted without the aid of the speculum in almost every case.

As to the use of ergot, I always used to give it to my patients because I thought I must. But from a larger experience, I am convinced that we ought not to use it unless there are indications warranting its use.

It often produces unnecessary uterine colic. Only in exceptional cases should it be given. And the accoucheur will readily discern the usual symptoms of hæmorrhage within the hour after the expulsion of the placenta.

I cannot too highly commend the lesson which the paper teaches: The lesson of a careful preparation of the patient for a safe delivery of a healthy child, under absolutely aseptic rules.

Dr. N. H. VINEBERG: I agree with the last speaker that the majority of obstetricians cannot follow all the rules laid down by the author, no matter how much they believe in them. For that matter, I think that it is, perhaps, a mistake to lay down so many rules for a man sees that he cannot follow them all and, therefore, does not try to follow any of them.

I was especially interested in one point, that in regard to the position of the patient during delivery. The author recommends the supine posture. I very much prefer to deliver a woman on the left side. No matter how carefully the bowels have been prepared, there is sure to be an escape of fæces when the head is passing the vulva and infection is likely to occur as a result of contact of the bacillus coli communis with lacerations of the parturient canal. This is more easily prevented when the patient is upon her side and, moreover, the perinæum can be better protected.

In regard to another point, I do not think that many of us wait as long as three-quarters of an hour for the expulsion of the placenta.

Dr. CLEMENT CLEVELAND: I have listened with great interest to this admirable paper, but differ from the author in some respects. In the first place, I certainly believe in repairing a lacerated cervix or perinæum immediately after labor, provided, of course, the patient's condition is such as to admit of it. It is most easily done. The cervix can be reached without difficulty, and brought into view, immediately after labor, without the use of speculum, by means of the Hunter sponge-forceps, one being applied to the anterior, and the other to the posterior lip. The cervix can, by this means, be so completely drawn down that the repair can be performed practically outside of the vulva. The results I have found, in the majority of cases, most satisfactory, many of the cervixes appearing almost normal, as if no tear had ever occurred.

We see so many cases of neglected laceration of the cervix, where cystic degeneration has occurred, which require amputation, in order to remove all cicatricial tissue, that it seems hardly possible to question the advisability of immediate repair.

I do not know that I exactly caught the author's meaning, but I think he said that sexual intercourse should be restricted during the early months, and prohibited during the latter part of pregnancy. I do not see how it is possible to lay down rules of this kind and expect to have them followed. In many cases I believe it would be a prohibition fraught with the greatest risks, would result in illicit intercourse, and possible gonorrhœal infection of the wife after labor, a danger which, to my mind, is much more to be guarded against than the very slight risk that the mother and child in utero would run, if the prohibition had not been prescribed. I feel that it is a most dangerous proposition to suggest, and I certainly would not think of advising it myself, except in very extraordinary cases.

In regard to the use of ergot, all my professional life I have been in the habit of giving it after the expulsion of the placenta. I give it immediately after the birth of the child, for the purpose of aiding the expulsion of the placenta, and immediate contraction of the uterus. I have never yet seen any harm from it and I should never dream of omitting its administration.

I think it good practice, after labor, where there has been no laceration of cervix or perinæum, to allow the patient to use a commode at the side of the bed, care, of course, being taken to prevent exposure. After forty-eight hours, if all is going well, I have always allowed my patients to sit up in bed a short while every day. I have done this

because I have not only believed it was a rest for the patient, but because it aided the drainage from both uterus and vagina. I am glad to see the author take the positive stand he does, in favor of it.

Dr. G. W. JARMAN: The paper is not complete for it touches upon all points. In regard to the indiscriminate use of nitrate of silver in the eyes of infants as a prophylactic measure, I am not in favor of this. I would like to ask the author if he makes use of this procedure in cases in which he has no reason to suspect vaginitis or gonorrhœal infection. I have had a few cases of ophthalmia neonatorum but they occurred in cases in which I could not be absolutely sure that the mother was cleanly in her habits or had suffered from gonorrhœa.

In regard to the immediate repair of the cervix, I think all of us will agree that it is not so easy to get at it as is stated.

The author's narration of the details would make one think that there is an enormous number of things to be done in obstetrical practice, but, in reality, it takes a very short time to carry out the rules laid down. The author has not mentioned Kelly's pad. I never go to a labor case without one which I keep for the purpose. Immediately before it is placed under the patient, it is soaked in a one-to-five-hundred—not a one-to-five-thousand—solution of bichloride of mercury and thoroughly dried. I also use during labor an antiseptic solution about the vulva, say, a one-to-eight-thousand solution of bichloride, which is caught in the pad and in this way the bed is kept comparatively clean.

Dr. W. E. PORTER: In regard to douching in labor cases, I am in favor of giving one ante-partum bichloride douche for the sake of cleanliness at the time the bath is given prior to labor. I believe in post-partum douches because they make the patient more comfortable and favor involution, thus hastening the progress of recovery. They should be given as warm as possible.

In regard to the care of the breasts, I make it a rule to support them before the milk appears. I employ a bandage made like a corset-cover in which are cut holes through which the nipples project. This bandage may be made tight or loose according to the amount of tension in the breasts. It adds greatly to the comfort of the patient.

Dr. JOSEPH BRETTAUER: I would like to ask the author for information in regard to the use of an anæsthetic in labor. I understand from what he says that it is his practice to employ chloroform in all cases. At what period of labor does he commence the use of chloroform? Also, how much of the anæsthetic he generally uses. It seems to me that the use of an anæsthetic as a rule is not warranted but ought rather

be the exception. Of course a few drops of chloroform while the head passes the perinæum is often of great value, not so much as an anæsthetic, but more as a suggestive procedure.

Dr. JANVRIN: I would like to know what kind of suture material the author employs in closing the perinæum.

Dr. A. PALMER DUDLEY: I do not know whether it may be considered presumption on my part to discuss this paper, but there are one or two remarks which I wish to make. First, in regard to the position of the woman during delivery. It seems to me that the side position is preferable on account of the reason mentioned by Dr. Vineberg and also because it enables one to inspect the parts and watch the progress of labor without disturbing the patient. By keeping the patient in this position I have in many cases been able to prevent rupture of the perinæum. I invariably employ an anæsthetic, beginning its use when the child's head is out of the uterus—never before. I consider it dangerous to administer chloroform before the cervix is dilated.

I repair lacerations at once whenever it is possible, for the reason that by doing this sepsis is guarded against. I always let my patient sit up a day or two after labor for the reason that the upright position conduces to good drainage and does away with the necessity for post-partum douching. I never permit a nurse to give an antepartum douche, nor do I use bichloride about the genital tract before labor for the reason that it removes the natural secretion and contracts the canal and is irritating to the eyes of the child. I use borate of sodium for the purpose of cleansing the vagina.

In regard to the nursing of the child, the author has advocated a most valuable rule. It is very difficult to make the mother understand that it is better to let the child cry a little rather than give it the breast at all times. The latter is a most pernicious habit. The child should be kept away from the mother and should be nursed only at stated intervals.

Dr. LEROY BROWN: I wish to refer to an important point, *viz.*, tender nipples. This is an annoying condition, and I think that, in addition to supporting the breasts, as suggested by the author, the nipples should be protected by placing bits of absorbent cotton over them, instead of allowing them to protrude through holes cut in the bandage. My idea is that the tenderness is in part caused by the bare, damp nipples rubbing against the night-dress. I have found that after dusting the nipples with bismuth and protecting them with cotton the tenderness rapidly disappears.

In regard to the remark made by Dr. Jarman, I would like to ask

if he does not find that the bichloride of mercury which he uses about the vulva during labor has an irritating effect upon the eyes of the child.

Dr. JARMAN: I do not use it during the birth of the child, but previous to this stage.

Dr. J. E. JANVRIN: I have one word to say in regard to the treatment of tender nipples. About twenty years ago I obtained from Dr. Robert Roland a pair of silver and gold nipple-shields. They are very light, made of silver, and lined with gold, and have minute perforations in them. I employ these shields in all cases of tender nipples. They are dipped in cold water and placed upon the nipples after the child has nursed, and worn until removed for the next nursing. The theory is that the electrical current formed by the two metals hardens the nipples. I have found them of the greatest use to me, and would hardly know how to get along without them in cases of sore and cracked nipples following confinement. In many instances it is not necessary to make use of any other means for the healing of these injuries.

Dr. JARMAN: I would like to ask Dr. Thomas whether or not he employs any treatment to harden the nipples previous to labor.

Dr. J. CLIFTON EDGAR: I regret that I did not hear all of the paper. There are, however, one or two points upon which I would like to touch. In regard to delivery with the patient in the Walcher position, I do not think that much space is gained in this way. I once spent a day at the Maternity Hospital on Blackwell's Island examining waiting women in regard to this point. I did not rely upon digital pelvimetry, but made accurate instrumental measurements of the distance between the pubic-bone and the promontory of the sacrum, and the result was that I found that there was a minimum gain in space in some and none in others in the obstetric conjugate.

In regard to the determination of the size of the child and the indication for inducing premature labor, I do not know of any means by which we can estimate the transverse diameter of a child's head. It is safe to say, however, that if the head fits the pelvic brim tightly at the thirty-sixth week, it will fit more tightly as time goes on and therefore labor should be induced.

The question of antepartum douching is a most interesting subject, but I do not think we can lay down any rule in this matter. Just now, when the bacteriologists are so much to the front, we are told to believe that there is no necessity for employing either antepartum or postpartum douches, for the reason that the vaginal secretion is bactericidal. From a clinical standpoint, however, I do not think we can take this

view. In some cases the antepartum douche is absolutely indicated, therefore every case must be a law unto itself. Two years ago it was decided that we should use no more antepartum douches at the Maternity Hospital. The result was that we had a whole ward full of babies with ophthalmia. Of course, the service there is largely venereal, but this fact shows that we cannot dispense with the antepartum douche in some cases. Recently I saw in some medical journal a case reported by Hirst, in which he attributes blindness in a child to the bichloride douche, which was given prior to labor. In regard to the post-partum douche, I am of the opinion that it can be dispensed with unless there is a tendency on the part of the uterus to relax.

In regard to the preparation of the nipples before labor, it is my custom to employ a mild alcoholic astringent, following by sterile vaseline, for this purpose, and I have found it very satisfactory. Two years ago this Society discussed this question, and two plans of treatment were advocated, *viz.*, "tanning," hardening the nipples by means of alcohol and softening them by the use of lubricants. The general opinion was against the former method.

Dr. THOMAS, in closing: I thank the members for their kind interest in the subject of the paper and for the criticisms and suggestions which they have made. In regard to the remarks of Dr. Hanks, concerning the immediate repair of the cervix, I have no doubt that this question impresses the gynæcologist somewhat differently than it does the obstetrician. I make no pretence of being a gynæcologist, and, therefore, perhaps, my inclination is to lead away from that kind of work. The attempts which I have made toward repairing the cervix immediately after labor have taught me that it is extremely difficult to do. In support of this opinion I was rather pleased, not long ago, in looking over a work on gynæcology, edited by a member of this Society, to see the statement made that, from a gynæcological point of view, the procedure was not advised, on account of the difficulty in bringing the parts into proper apposition, owing to their extreme distortion at this time. On the other hand, I do not think that a lacerated cervix should be permitted to remain uncared for until cystic degeneration sets in. I would turn all such cases over to the gynæcologist as early as possible after the patient is about.

As to the giving of ergot, my position is this: I think it is well to administer it on account of its medico-legal value. I have not much faith in it from a therapeutical standpoint, but I do not think we have reached that point at which we can dispense with its use. Suppose one had a case of flooding, and the case was brought into court, I do not

think the profession would sustain a physician if he had failed to use ergot. The drug will not do any harm, and, therefore, I am of the opinion that it is better to use it.

In response to the remark that the following of such detail is impracticable for the busy practitioner, let me say that its application is simpler than its recital indicates. The criticism of the periods of waiting advised at the bedside impresses me as irrelevant. Such a practice may curtail the field of our labors, but a conscientious performance of duty entails that sacrifice.

In regard to the criticism of the rule laid down in relation to sexual intercourse during pregnancy, I do not mean to say that I always succeed in having my advice carried out, but it seems to me that our position in this matter must be one which considers the best interests of the mother. I certainly think that intercourse should be forbidden during the latter months, on account of its usual discomfort and disgust to the woman, and the danger of premature labor being brought on by the excitement incidental to the act. As to prohibition being unwise on moral grounds, it seems to me that a man who would run the risk of infecting his wife with gonorrhœa by seeking his pleasure away from home, because intercourse with her was denied him, would do the same thing if he were merely left to the natural restrictions of the last few months.

In regard to the use of nitrate of silver in the child's eyes, it is my routine practice to use it in all cases. At one time I gave it up, and in the first case in which I did not employ it the child developed an ophthalmia. This set me to thinking, and I took pains to interview several well-known ophthalmologists upon the subject. All were of the opinion that it was good practice, and one in particular, a man who had had a large obstetrical experience in early life, was in favor of its use, not only because it was a disinfectant, but because it acts as an astringent. After I use it I instruct the nurse to apply cold compresses wet with boric acid, to the child's eyes for a couple of hours, and the irritation which it causes soon subsides. I have never seen any ill effects follow the practice, and as I have had no further case of ophthalmia, I feel constrained to advise its routine use.

As to antepartum and post-partum douching, it seems to me that, if the bacteriologists can be believed, all douching may be dispensed with. I do not think, however, that we are in a position at present to abandon it altogether, though indications for its use should surely be something more than the "comfort of the patient."

For ligatures in case of repair of laceration, I use a carefully pre-

pared catgut, and, occasionally, one external suture of chromicized silkworm-gut.

It is gratifying to find my own experience in pelvimetry, and foetal mensuration, in deciding upon the period for the induction of labor in cases of disproportion, coincides with that expressed here. It seems to me the text-books are misleading on this point, and that the only safe guide we have is a close watch and frequent trial of the relations of head to the pelvis at the bedside, rather than by any estimate of diameters by methods of mensuration usually advised.

Official Transactions.

JOSEPH BRETTAUER, *Secretary.*

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL
SOCIETY.

Stated Meeting, March 2, 1899.

The *President*, CHARLES P. NOBLE, M.D., in the Chair.*Causation of Retrodisplacements of the Uterus.*

BY WILMER KRUSEN, M.D.

(See page 513.)

Diagnosis of Retrodisplacements of the Uterus.

BY J. M. FISHER, M.D.

(See page 516.)

Non-operative Treatment of Retrodisplacements of the Uterus.

BY F. HURST MAIER, M.D.

(See page 511.)

Suspensio-uteri and Intra-peritonæal shortening of the Round Ligaments.

BY RICHARD C. NORRIS, M.D.

(See page 505.)

The Consideration of Vaginal Fixation in the Treatment of Retroversion.

BY E. E. MONTGOMERY, M.D.

(See page 497.)

Alexander's Operation.

BY CHARLES P. NOBLE, M.D.

(See page 499.)

DISCUSSION.

Dr. J. M. BALDY: I don't believe a discussion of this character on this subject is productive of an immense amount of good; in fact, quite the reverse. I think you will see, before I am through, the drift of this remark. In the first place, we are put to the disadvantage of discussing several conditions; not exactly several conditions, but the same conditions complicated in many ways. If we were discussing simple retroversion, without any complications, it would be a very different thing, but the papers all deal with the condition complicated with other troubles.

I think we have to ask, what is a *displacement* of a uterus, and whether there is such a thing short of a prolapse; and to answer that we have to name the normal position of the uterus. There is no normal position of the uterus; the uterus is a movable organ. It is movable daily, hourly, each minute. Its position may be congenital or it may have been acquired. But whatever its position, the question arises, is it a displacement or not, in the sense that it is pathological, and does the patient suffer from bad symptoms? If she suffers from no symptoms, no matter what the *position* is, that position is normal to that woman and it comes down to the old question, what is the symptomatology? And that is a question which must be answered in each individual woman. There is absolutely no hard and fast rule in the matter.

I think you can now see very well what I mean by my opening remarks. It seems to me the more I study the *so-called displacements*, the more I am convinced that the whole theory is a falsehood, and one which must be more closely restudied.

The whole question of causation, of course, comes in a matter of this kind, and I want to say simply one word in regard to one supposed causative factor.

I don't believe that lacing, as done by the women to-day, is a cause of displacement of the uterus. If one says "tight lacing," as it is understood in its worst form, well and good. But in speaking of the ordinary corset-lacing that the woman of our day wears, I take excep-

tion to the theory that it has anything to do with these conditions. Who would not see a woman well corseted and well gowned? I have no sympathy with most of the dress-reforms which make our women slovenly in appearance.

If a woman comes to you with a displacement, and if, after examining that woman, you find that she suffers from no symptoms applicable to abdomen or pelvis, why, in common sense, should we say the woman has a pathological condition of that uterus? It is possible she may suffer, but if so, it is accountable to some complicating condition. If the woman has or has not had gonorrhœa, and is suffering from its consequences, she is certainly not suffering from the displacement.

The question arises, do cases of displacement occur where there is no suffering? I had within a few days a woman at my clinic at the Polyclinic who was perfectly healthy after her second confinement until four months ago. Her menstruation comes on somewhat profusely; she is examined and found to have a displacement. The bleeding was attributed to the displacement. As a matter of fact, the woman is getting well, and the displacement will remain. Beyond any question, she had that displacement at least as long ago as her confinement, one and a half years ago, and yet was and is a perfectly well woman. I can duplicate these cases time, and time, and time again.

When we come to deal with these cases surgically and have perhaps, done a hysterectomy, and Alexander's operation, in addition to removing an ovary, breaking up adhesions, etc., and have brought the uterus forward, we have given all the credit for the cure to the fact that a displacement no longer exists. Then I say we are attributing all to one factor and shutting our eyes to everything else. As a matter of fact, in the vast majority of these cases, if the ovary is removed, the adhesions broken up, the prolapsed ovaries replaced, and the Alexander operation and hysterorrhaphy left alone, the patient will be just as well. I have many times put one stitch in the fundus and kept it in place a week, or until the raw surfaces caused by breaking up adhesions have glazed over. I have then removed the stitch and allowed the uterus to go back again, and found the symptoms to be cured, although the displacement had returned.

As to the vaginal operations, I was glad to hear the position which Dr. Montgomery takes in his paper. I give them no consideration in dealing with a patient under any circumstances. I have never known any of them done in this country to result in any good; but with much harm.

I think all these operations are done too much. I am certain I have not found it necessary to do fifty operations simply for retrodisplacements in all my life—nothing like it.

As Dr. Krusen pointed out, we must revise our opinions at the operating-table. I do not believe the man exists who can take 100 cases of retrodisplacement and say with certainty whether all these displacements are complicated, even if they be examined under ether. And there comes back the gist of the whole subject: it is the complication that causes the trouble. If we treat the complication and cure it, it matters little whether or not the uterus remains displaced. In other words, I do not believe in so-called displacements. Any position of the uterus is, in my eyes, normal, provided only it does not produce disagreeable symptoms—and I make no effort whatever to correct it. I absolutely never tell such a woman she has a womb out of place—she will be sick in a short time if I should be so foolish. If we heard more of the complicating affection and less of displacement it would be far better for our patients.

Dr. ANNA M. FULLERTON: Mr. President, I do not feel like taking much of the time of the Society when there are others of larger experience who can add very much more than I can to the interest of this discussion, but I will say a few words with regard to my personal experience in the treatment of these displacements.

I think we all feel rather loath to resort to operative procedure for the correction of displacements unless we have symptoms of sufficient urgency to warrant operation. If I understand Dr. Baldy correctly, he means to point out that many of these symptoms are due to some complication rather than to the displacement, and that generally when we are called upon to treat retroversion we find the patient is suffering from some local inflammation or congestion of the pelvic organs which demands treatment. It is this that necessitates the use of tampons and palliative treatment even before we can adjust a pessary satisfactorily to keep the uterus in position. When a patient comes to us with a displacement we find her entirely too tender at first to permit of the introduction of a pessary and we are obliged to give palliative treatment until this tenderness passes away.

I find that I can best adjust the wool tampons by having the patient in the knee-chest position. I can get the uterus into a much better position than when I make the attempt with her in the dorsal position. Such treatment does much to relieve pelvic distress.

I desire, in speaking of palliative treatment especially, to emphasize the importance of treating patients for displacements of

the uterus during the puerperium. We find that subinvolution is rather the rule in the puerperium of the women in America, and, therefore, it is an important thing to examine the woman early. I make the examination as early as the end of the second week, and if I find a backward displacement of the uterus I am apt to begin its restoration to position, by means of medicated tampons, at once. In several cases I have found the treatment at this time to be curative; and, always, I have felt that the uterus has responded very more readily to the treatment carried on during this time than it does in the non-puerperal state.

With regard to operative procedures, I have performed a number of those which have been spoken of. I have broken up adhesions per vaginam and filled Douglas' cul-de-sac with antiseptic gauze to prevent adhesions recurring, and in one or two cases the result from this treatment has been very satisfactory. I have also done the Mann operation, and the Alexander operation, as well as ventral fixation. I think that Mann's operation and the operation for shortening the round ligaments by the Alexander method have been made most satisfactory in my hands, and, therefore, I would give them the preference over ventral fixation so far as my observation goes.

In any of these operations the results are not satisfactory if the uterus is too large and some operation must be done to reduce its weight, such as amputation of the cervix, if hypertrophied, before attempting operative procedure for correction of the position. I have found vesical tenesmus and pressure to be complained of after ventrofixation when the uterus has not been sufficiently reduced in size before its adjustment.

Untoward results sometimes follow the Alexander operation, as pains at the site of the incisions, probably due to some injury of nerves in this region. Aside from this, no complications have been attendant upon this operation, and it has proven very satisfactory in my hands.

Dr. G. M. BOYD: I fully agree with Dr. Baldy in the movability of the uterus, and it seems to me that the indications for operation or for any one of the operations is in the symptoms produced by the various changes in the shape and position of the uterus; does it press posteriorly, or upon the bladder; is it prolapsed, or does it sag?

At the last meeting of the American Medical Association, in the discussion of this subject, one of the essayists, referring to the difficulty to determine the right position of the uterus, made the statement that a paper which he had read recently proved that the determination of the normal position of the uterus was impossible; that

when the bladder was distended, it was retroverted, and when the rectum was distended it was anteverted, and he questioned what position it occupied when both were distended.

I have been interested in the past year in pregnancy and labor complicated by the operation ventro-fixation, and, although the hour is late, I will ask the privilege of showing a ventro-fixed uterus removed by Porro-Cæsarean section.

Last year I reported two cases in which ventro-fixation had complicated pregnancy at term. Both came under my service at the Lying-in-Charity. The first patient was admitted in labor; two attempts had been made with forceps, but without success. She was finally delivered with axis-traction forceps. She had a septic puerperium and in three or four days after delivery we discovered an injury to the bladder. It was necessary in that case for me to repair the vesico-vaginal fistula.

In another case in which I anticipated difficulty at term, I induced labor at the eighth month, but in spite of this we had extreme difficulty in delivering the patient. The delivery resulted in the loss of the child, although the patient made a recovery. The specimen which I show you here is from a case I saw in consultation with Dr. Ashton and assisted in the operation—*celio-hysterectomy*. This patient had a ventrofixation done in a Philadelphia hospital two years prior to her delivery. After a long labor, the presenting part making no progress, the anterior wall of the uterus acting as an obstruction, the cervix high up and posterior, it was found necessary to do a Cæsarean operation. Because of the difficulty Dr. Ashton had in controlling hæmorrhage he found it essential to remove the uterus. Although the ventrofixation was performed *secundum artem* with that delicacy of touch and with the slight attachment that should always be made between the abdominal wall and fundus, we have here quite a firm, fibrous exudate at the point of the attachment of the uterus. It required an excessive cutting to separate the uterus from the abdominal wall.

In spite of our ability to get our hands clean, in spite of our skill in performing ventrofixation, it seems to me we always run a risk of infecting our patients, and if pregnancy is possible, our patient runs a great risk if she goes to term. I, myself, feel—and this feeling may have been brought about by the experience of the past year—that I should hesitate to fix the uterus to the anterior abdominal wall in a case that I felt possibly might become pregnant.

DR. DANIEL LONGACRE: It seems almost a pity to prolong this dis-

cussion, but I do so in order to say something in the line of Dr. Baldy's remarks. I believe he is nearly right and I think the whole matter may be summed up in the statement that the uncomplicated retroverted uterus requires no treatment. I make this statement, I think, not hastily; I have been making the diagnosis of retroversion of the uterus for nearly twenty years. I treat it even without a pessary.

I have come to the conclusion that patients may be divided into two great classes: One class eats entirely too much and defecates entirely too little; to this class belongs the lady. And to the other, the girl of the factory, who stands all day at the loom, and eats too little. Such patients come to you with a loaded rectum and, of course, back-ache. If you will treat them on hygienic and dietetic principles you will cure them. I have repeatedly seen cases where the diagnosis of retroversion has been made and the woman has gotten UTERUS in the head so badly that it is almost impossible to get it out.

Another matter which seems very important and is perhaps frequently the keynote of the situation. This is gonorrhœa: a disease that often gets into very respectable places.

Dr. J. G. CLARK: This discussion reminds me of an exceedingly clever little booklet presented to his guests at a dinner given by Professor Säger of Leipzig during the session of the Seventh German Gynæcological Congress, in 1897, in which the professor gives sway to the muse, under whose influence he narrates in rhyme the woes of the retroflexed uterus, and, although his verses are characterized by happy witticisms and satirical humor, they nevertheless conceal between their lines a deal of wholesome thought and protest against the extent to which operative treatment has been carried by the overzealous gynæcologist. His introductory verse, entitled "Uterus Quidam Retroflexus," offers the protest of the unoffending uterus, which desires to be left undisturbed, for it insists that whether it inclines toward the bladder or whether it rests upon the rectum is immaterial, inasmuch as both postures fall within its normal province.

The poet then recites how the correct and conservative gynæcologist insists upon the uterus assuming a mobile posture, inclined gently forward upon the bladder and, in case of refusal, resorts to discipline and forces it into proper position with a Hodge pessary.

Then comes the plea of the uterus fixed by adhesions to the rectum to be released and restored to its resting-place upon the bladder, which is answered both by Thure Brandt, who proposes to liberate it by massage, and by B. S. Schultze, who would by forcible bimanual

manipulation break up the adhesions and accomplish in a moment the results obtained only through weeks of treatment under Brandt.

From this strain the poet turns to the consideration of the various pessaries, and terminates with the line that a Hodge, a Thomas, or a figure-of-eight form is of equal value, provided "it fits." At this point the modern gynæcologist has his say, and proposes to discard the antiquated pessary, which, at best, he considers but a makeshift and always inferior to fixation.

Each operative method is then passed in review, and the poet terminates with the verse that neither the conservative gynæcologist, who would leave the uterus alone, nor the advocate of the pessary, nor those who, through the aid of sutures, would fix the refractory organ either above, below, forward, or behind, nor the decision of the Gynæcological Congress, and, finally, not even the poet himself, can foretell how much further the strife over the question may go.

Before that congress had passed its third sitting the poet's verses had been verified, for in the discussion following the announcement of the first principal theme, "*Retroflexio Uteri*," it became quickly evident that there was a wide divergence of opinion as to the treatment, and that even among the wisest heads there was a lack of consensus which neither appeared desirable nor possible after the many years of treatment by the various methods and the volumes of literature devoted to the various aspects of the subject.

With regard to the operative treatment of retroflexion, it seems to me that we have at least confined ourselves to more reasonable limits than the Germans, for so far in America practically only two methods have been recognized—*suspensio-uteri* and shortening of the round ligaments. Under the conditions which Drs. Noble and Norris have pointed out, both of these operations may occupy a very acceptable place in our list of remedies.

With reference to the cases which are to be selected for operation I think Dr. Baldy has perhaps stated the matter correctly. In this connection I recall Winter's statistics relative to the symptoms arising or rather not arising from retroflexion.

In order to solve this question he quite properly has not resorted to the study of the patients applying to the gynæcological clinic for treatment, but has collected very careful statistics from obstetrical patients in the Berlin clinic, who, through his direction, have returned from two to ten months after their confinement for examination. In the course of a year he saw 302 women, 36 of whom had some form of retroflexion.

Of these, 11 were absolutely free from any discomfort. In order to differentiate as accurately as possible, Winter made the most careful examinations, taking into especial consideration inflammatory conditions of the uterus (endometritis and metritis), of the appendages, and of the parametrium. Associated inflammatory conditions and changes of position of the vagina, disease of the bladder, stomach, and intestines, and the mobility of the kidney were also closely studied.

As a result of this analysis, only four uncomplicated cases were found. Of these, 1 was a neurasthenic, who complained of pain in all the organs, while another, who was nursing her child, complained of sacral pain, which, however, disappeared when the baby was weaned.

The remaining 2 were subject now and then to pressure symptoms. In not a single instance, however, could Winter convince himself that the faulty position had anything to do with the associated symptoms. With regard to the operative treatment, I think a midway position is safe between the overzealous gynæcologist, who operates on a large percentage of cases, and the conservative one, who still sticks fast to the pessary.

Dr. WILLIAM KRUSEN: In reply to Dr. Fischer, in regard to terminology, it would be simply unnecessary for me to denote what we ordinarily understand by the terms retroversion or retroflexion. It seems to me the multiplication of these terms is rather confusing and it does not add anything whatever to the lucidity with which we discuss these subjects.

With regard to treatment, so far as my own experience goes, I have tried massage, but with little success; but I have come to the conclusion from listening to Dr. Maier that I have not known how to employ it.

In regard to Dr. Baldy's opinion that such a discussion as this is productive of no good, I most emphatically disagree with him.

In regard to operations which Dr. Baldy speaks of when he has opened the abdomen and found the uterus displaced, and has broken up the adhesions and brought the uterus forward, it seems to me it is better to do like the Irishman: whenever you see a head, hit it; when you see a diseased appendix, remove it; when you see a uterus with a tendency to displacement, with an operation with such good results at our disposal, it is better to fix it so that it will not be easily displaced again.

Dr. J. M. FISCHER: I certainly feel called upon to defend my position in the classification of retrodisplacements of the uterus. I give this classification of retroversions, retroflexions, and retroversio-

flexions, etc., simply because of the discrepancy of opinion on the part of different authors, some holding that retroflexion occurs oftener than retroversion, and others holding the opposite view. The truth of the matter is that in most of these cases the uterus first undergoes descent and before flexion takes place version occurs. I don't consider that the anatomical classification of the subject has any practical bearing in so far as treatment is concerned.

I agree thoroughly with Dr. Baldy as to the comparative infrequency with which we have symptoms in connection with simple posterior displacement of the uterus. There are comparatively uncomplicated cases that give rise to symptoms. Attention to the complication is much more important than attention to the displacement itself.

Dr. R. C. NORRIS: I agree with Dr. Baldy that uncomplicated backward displacement means nothing. A woman having that kind of displacement will never go to a doctor. Dr. Baldy, as well as the rest of us, have seen the uterus retrodisplaced, movable, and readily replaced, and repeated examinations always found the tubes and ovaries free from disease. It is my belief that the associated passive congestion causes the discomfort. We have seen such women thoroughly relieved by pessaries as long as they can tolerate the pessaries. I am sure the relief so afforded is not always the result of a mental impression. It is true that most cases of retrodisplacements are associated with adhesions or more serious lesions of the appendages, and that the latter cause most of the patient's suffering, but the uterine displacement is also a factor.

Dr. Fullerton struck the keynote in speaking of the successful use of tampons and pessaries in the early puerperium for the cure of displacements. The best results I have ever obtained have been in the early puerperal period, and I believe that every family doctor who sees a case of labor should feel that his whole duty had not been done to the patient if he did not make a vaginal examination before he ceased his attendance.

The specimen which Dr. Boyd has exhibited should not be exhibited before this Society for the purpose indicated. I think it is every man's duty, if he has a patient on whom he has performed ventrosuspension or fixation, and who becomes pregnant, to see that the patient is not allowed to get into a condition of this kind. The case, I think, might have been managed without sacrificing the uterus. From his report of the case it would appear that the uterus was sacrificed on account of technical difficulties in the course of the operator to free the fundus. I would not hesitate myself if I had a case of this

kind and the woman became pregnant, to open the abdomen and free the uterus, rather than allow her to go to time. The cases that I have seen, with but one exception, have had no such trouble. Hundreds and hundreds of women who have gone through this operation are grateful and have had years of comfort. A case of this kind is shown once in a while, but should not deter men from doing an operation in which they have confidence. The firm adhesion of the fundus to the abdominal wall may have resulted from a faulty technique.

When speaking of uncomplicated displacements of the uterus we should clearly understand what is meant by that term. Aside from affections of the appendages a displaced uterus may be a congested uterus, and such a case is for that reason complicated. The same may be said of lacerations of the cervix, of endometritis, and metritis, all of which contribute to the patient's discomfort and help to maintain the displacement. Repair of the cervix and curettement for the endometritis, with no effort to correct the displacement, will not relieve the patient of her suffering.

Dr. F. C. HAMMOND: Notwithstanding the harm spoken of by Dr. Baldy, I think the Society has benefited a great deal by the discussion brought forth.

The statistics given by Dr. Krusen of 1000 cases (being familiar myself with them) represents a very small percentage of simple displacements; *i.e.*, unassociated with tubal and ovarian disease.

In regard to the use of the word congenital, I think the word is misused by the profession at large. "Congenital" means at birth, and unless we examine the cases at birth, we cannot tell the condition. If we examine a girl at the age of puberty we cannot say it is a congenital condition, because we did not examine her at the time of birth.

Faulty blunders referred to by Dr. Krusen are a causation of backward displacement. The women have become educated to the usage of the binder, and we should educate them to do away with it. I think no force should be used in applying a binder and it should fit the abdomen snugly, and should extend from the hips to the armpits, for the simple reason that we may deliver a case in the evening and, not seeing the patient until morning, the (purely abdominal) binder may practically prove to be a girdle around the waist, having slipped up during the night.

The classification given by Trielet is rather interesting from the operative standpoint. He classifies retrodisplacement into three groups: (1) The resistant, in which adhesions are gradually broken up; (2) the adherent, in which the fundus is so tightly bound down that one is

unable to break up adhesions and replace the fundus to the normal position, and (3) the reducible, which variety represents those cases in which the fundus is readily replaced without any difficulty. A consideration of this classification I think would aid us greatly in deciding whether to adopt Alexander's operation or the various intra-abdominal procedures.

Dr. F. HURST MAIER: I do not think I can remember the statistics of cases treated by massage. I have been practising massage for the last five years. I lay special stress upon the position in which the patient is placed. I never practise massage in any of those cases in which there was any painful inflammatory symptoms or where I thought there was any disease of the tubes and ovaries. I practise it principally for the purpose of gradually replacing the uterus, and at the same time toning the ligaments and bringing about involution by the kneading. Often the organ becomes smaller and you can do away with the use of the pessary altogether. Accurately what percentage this occurs in I really could not say.

Dr. C. P. NOBLE: I would like to emphasize, as Dr. Norris did, the importance of the point brought out by Dr. Fullerton, namely: that of all the classes of cases in which we hope to get good results by non-operative treatment, the cases seen shortly after labor offer the best prognosis. If we will take the trouble to study the careful papers which have been written as to the results secured by non-operative methods of treatment of retrodisplacements we will find the highest percentage of permanent cures of uncomplicated cases is twenty per cent. In non-puerperal cases the palliative treatment of retrodisplacements has almost always been a failure in my experience—judging success by the standard that the uterus must remain in position without the support of a pessary.

Official Transactions.

FRANK W. TALLEY, *Secretary.*

TRANSACTIONS OF THE WOMAN'S HOSPITAL SOCIETY.

February 21, 1899.

The *President*, GEORGE TUCKER HARRISON, M.D., in the Chair.*Cyst of the Ovary.*

Dr. BACHE McEVERS EMMET: This specimen was removed on Friday last, at which time it was about one-fourth larger than it is now. It illustrates what can occur in a pathological way during the space of four weeks. One month ago I operated upon the same patient for procidentia. She was forty years of age and in good nutrition, and I did not like to remove the uterus, so I amputated the cervix, opened the abdomen, and shortened the round ligaments and also fastened the uterus to the anterior abdominal wall, knowing that the patient would never conceive again. Previous to opening the abdomen I had felt within the pelvis, on the left side, what I supposed was a cystic ovary about the size of a pigeon's egg. None was found at the operation and I concluded that it must have been ruptured by the manipulations employed at examinations made subsequent to mine. There were, however, numerous small cysts of the ovary, and I punctured these and touched the cavity of each with carbolic acid. The ovary, as I left it, was of normal size, and the tube in fairly good condition, so I merely severed a few adhesions which existed and replaced the adnexa. The patient recovered from the operation, but upon examining her three weeks after I felt a development upon the left side similar to that noticed before, and, as she complained of feeling that the vaginal wall was prolapsed, I decided to open the abdomen in order to remove the cyst and, at the same time, do a hysterectomy. Upon the left side I found this mass which had not been present at the time of the first operation and which, therefore, had developed during the intervening four weeks. The tube, which had previously been practically normal, was doubled upon itself, much distended, and spread out in half of its length over one side of the cyst.

It is a question whether, in my desire to effect a cure, I did not at the time of the first operation establish traumatism by puncturing the cysts of the ovary and severing adhesions, which had existed previously

without doing harm, and in this way set up an irritation which resulted in the development of this mass. I am led to believe that in cases in which we discover a tumefaction in the pelvis following such conservative operations, the condition is perhaps similar to this and due to traumatism produced by the operation. A number of like occurrences now come to mind. One, in particular, of recent date, which Dr. Dudley will recall because he followed me in the gynæcological service at the Post-Graduate Hospital, in which the patient had an intense gonorrhœa and infection of the left tube. The distention became so great that I removed the tube. The ovary of the same side contained some cysts, which I punctured. The patient did well until the tenth day, when she began to complain. A fulness could be felt below, and I dissected the vagina from the cervix in order to reach the broad ligament. Finding that the tumefaction was back of this, I plunged the sharp points of a pair of scissors into the mass, and an ounce of clear fluid escaped. It was evidently a cyst of the ovary. I drained for a few days and ultimately the entire mass disappeared. I have frequently seen cases in which a tumefaction developed in the pelvis after operation, but have never been able to account for it until now. The results in such cases have always been unsatisfactory.

DISCUSSION.

Dr. A. PALMER DUDLEY: I am glad to see Dr. Emmet report a case of this kind and to hear his remarks upon the subject of conservative surgery of the ovary. I have been working in this direction for some years. I have incised and punctured a great many ovaries, but I have never met with the condition referred to by Dr. Emmet as occurring after such operations, and have never been obliged to operate a second time upon the patient. I am at a loss to account for the condition in his case. His remark to the effect that we sometimes overdo in trying to save an ovary may be trite and true, although I do not see how puncture of the small cysts could result in dropsy of the ovary, unless it were done imperfectly. I make it a practice to scratch up the cyst-sac until it fills with blood before I drop back the ovary, and am of the opinion that the blood-clot obliterates the sac as it would a normal corpus luteum. In the 115 cases in which I have treated the ovary in this way in order to save a portion of it, inflammation has followed in but one, and in that case the uterus had been accidentally punctured with a curette before the abdomen was opened, so that in all probability the inflammation was due to the former cause.

Dr. CLARENCE R. HYDE: I would like to refer briefly to the subsequent history of a patient operated upon conservatively by Dr. Emmet. The woman came under my care about one year after leaving the hospital, and complained of pain in the left side. Examination showed the presence of a large mass. For good reasons I did not operate upon her myself, but sent her to a hospital where a colleague took charge of the case. Upon operating he found the left ovary as large as a small orange, and the tube large, convoluted, and spread out over the cyst. This was the ovary which had been treated conservatively at a previous operation.

Dr. J. D. BISSELL: I can recall one case in which I dissected out from the ovary a small cyst the size of an egg. The patient continued under my care for more than a year after, when she again became very ill. A second operation was performed by another surgeon, as I was about to leave town, and if I remember correctly, there was a hæmatoma of considerable size in the same ovary. Whether it came from the surface, which I dissected out and sewed up, or whether it was a new condition, I am unable to say.

In regard to the rupture of cysts during examination, I have known this to occur several times, and recently it happened in a patient upon whom I was expected to operate. The woman was examined by three surgeons, and the cyst suddenly disappeared, so the woman has apparently been cured by the examination. There is a thickening to be felt at the site of the cyst, and it is a question as to whether or not the latter will fill up again.

Dr. L. GRANT BALDWIN: Since the subject of conservative treatment of the ovary was brought before the Society, I have employed this method in a number of cases. In some I have split the ovary and dissected out the diseased portion; in many others I have merely punctured the cysts. I have followed up most of the cases and have found that the therapeutic results are good. In the case under discussion there may have been some infection lurking in the tube, which caused the trouble.

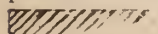
Dr. BACHE EMMET: In regard to Dr. Dudley's plan of leaving the sac of the punctured cysts filled with blood-clot, this has never suggested itself to me before, but we all know that blood-clot has a beneficial effect upon reparative processes, and it may be the better plan to follow. However, in treating these ovaries, I think it is still better to remove all of the diseased portion, even if we leave but a small stump, since these small cysts may develop later, and put the patient to the annoyance of another operation.

Dr. DUDLEY: Several years ago I operated upon a patient with an ovarian cyst, which was ruptured during an examination made prior to the operation. Upon opening the abdomen it was found that the cyst had contained black blood. I removed the appendages upon that side, but decided to try to save those upon the opposite side, although my old preceptor, Dr. Gordon of Portland, Me., who was present, advised me to remove them. The patient suffered from intestinal obstruction after the operation, but finally made a very good recovery. After remaining sterile for three years, she became pregnant, but miscarried at the fourth month. Last summer, however, she again became pregnant, and was recently delivered of a fine boy. This case illustrates the fact that a woman with a patched-up ovary will bear children. Of course, I believe, as does Dr. Emmet, that we cannot make a success in all cases. In many instances it is an experiment. I would prefer to run the risk of a second operation later rather than completely remove an ovary when there is a possibility of saving it. This is the principle upon which I work, but I do not promise these patients anything, but merely say to them that I will do what I can.

THE PRESIDENT: I think myself the efforts of Dr. Emmet were in the right direction. The work which has been done in that line, in which Dr. Dudley was one of the pioneers, is very much to be commended. There has been a great reaction from the work which was done a few years ago. It is quite important that cases in which the results are not quite satisfactory be reported as well as the successful ones, for in this way only can we judge exactly of the *status* of the operation. The great difficulty in determining the value of any operation is the fact that surgeons do not, as a rule, follow up their cases, and, therefore, do not know whether or not the ultimate result of the operative procedure be good or bad.

Multiple Fibroid and Ovarian Cysts.

Dr. DUDLEY: A week ago there came to me a woman who had an abdominal tumor, which reached almost to the ensiform cartilage. She had not been aware of its existence until six weeks previously, for it had not given rise to any symptoms except enlargement of the abdomen, which was attributed to the taking on of flesh. I opened the abdomen and first removed a double fibroid, which had a pedicle twice as thick as my wrist. A large, thick-walled cyst of the left ovary then presented. In getting it out of the abdomen the sac was ruptured and part of its contents, consisting of black blood, ran into the pelvic cavity.



The left tube was nine inches long and adherent to the ascending colon. On the right side was a pedunculated ovarian cyst as large as an orange. It also was full of black blood, and was firmly adherent to the rectum. The uterus itself held thirteen small fibroids. In removing the cysts I was obliged to leave behind a small portion of the wall of one of them on account of it being attached to the gut. I then did suprapubic hysterectomy, ligating the vessels individually, capped over the stump with peritonæum, and, finally, opened the posterior cul-de-sac for drainage purposes.

During the operation saline infusion was employed, a pint of the solution being injected under each breast, and the patient was put to bed in a fairly good condition, and has done well ever since, although during the operation it seemed hardly possible that she could survive it. The pulse and temperature reached the highest point yet reached to-day, viz., 104 and 101° F., and this I think was due to the fact that some of the gauze packing was removed this morning. There is every reason to believe that the woman will recover. I think that her good condition is largely due to the fact that I drained the pelvic cavity through the cul-de-sac. I consider this advisable in all cases of suprapubic hysterectomy.

DISCUSSION.

THE PRESIDENT: In drainage, after supra-pubic hysterectomy, Dr. Dudley has opened up a very interesting point for discussion.

Dr. BACHE EMMET: In a clean case like that I do not think drainage is required. Some time ago I had a most difficult case. There were pus-tubes on both sides, and in removing them one was ruptured and some pus escaped into the abdominal cavity. It was also necessary to leave a large denuded surface on the sigmoid flexure. I carefully cleaned out the cavity and was so satisfied that it had been thoroughly done that I closed up the wound and employed no drainage whatever. The patient had a fæcal fistula, but made a good recovery. In other instances I have been equally successful without draining. It is a fact, however, that it is impossible to lay down rules as to when one should or should not drain.

THE PRESIDENT: When it comes to cleaning out the abdominal cavity, I think it is better to employ dry sponging rather than flushing out. I once assisted a well-known surgeon of Philadelphia, in an operation for appendicitis, or perityphlitis, as it used then very properly to be called, for the latter term expresses the condition better, in which

there was a large abscess. He irrigated the cavity, pouring fluid into the wound from an old tin can, and in so doing he violated every principle of surgery. The seat of infection had been completely walled off from the peritonæal cavity by Nature's efforts, and in running in this irrigating fluid he ran the risk of breaking down this protecting wall and infecting the entire peritonæal cavity.

Presentation of a New Écraseur: Its Advantages over Ligatures and Clamps in Intrapelvic Surgery.

BY J. D. BISSELL, M.D.

(See page 520.)

DISCUSSION.

THE PRESIDENT: I think I express the sentiment of the members of the Society when I say that we feel under deep obligation to Dr. Bissell for presenting this subject first before this Society. The work in which he is engaged is admirable, and I am of the opinion that it is going to revolutionize surgery.

Dr. BACHE EMMET: It is certainly a wonderfully devised instrument, and I thoroughly believe in the principles which it embodies. The demonstration which the author has given us shows us that it effects its purpose thoroughly well.

The only criticism which I would make is that the blades are not made long enough to grasp a large pedicle. The same can be said of the Truffier Instrument, which I used the other day, and found too short. The groove in the latter instrument is an advantage, I think, for a clot will form in it and the effect will be the same as when a double ligature is used. In other ways, however, Dr. Bissell's instrument possesses advantages over that of Truffier. The latter reminds me of the old instrument, Storer's clamp-shield, which is built on the plan of a lobster-claw.

Official Transactions.

NATHAN G. BOZEMAN, *Secretary.*

ABSTRACTS.

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OBSTETRICS.

UNITED STATES.

Unusual Forms of Puerperal Hæmorrhage

S. MARX (*Medical News*, March 4, 1899) records several cases of post-partum hæmorrhage, all of unusual origin.

Case I.—The patient, when five-months' pregnant, was seized with labor-pains and delivered of a fœtus in an unbroken sac. The uterus contracted well, and, except for a profuse bloody lochia, the patient did well. At the end of a week a second fœtus and a macerated placenta were expelled. Convalescence was normal, except for a slight hæmorrhage and some intermittent pains. Five weeks after the birth of the second fœtus a very profuse hæmorrhage occurred, followed by the expulsion of a third intact fœtal sac, filled with liquor amnii. No fœtus could be found. It is well to remember that pain and hæmorrhage are not consistent with a normal puerperium, and manual examination should be made.

Case II.—Had a retained placenta, and the Credé method was tried at intervals for twelve hours, with no benefit. There was constant but mild hæmorrhage from the vagina. The writer was called in consultation, and found that the Credé method had been practised upon a much distended bladder, while the large uterus, containing the placenta, had been pushed to the left. After the bladder had been emptied the placenta was soon expelled, and the uterus promptly contracted. The importance of testing the bladder in all cases is illustrated by the case of a woman who was pregnant about three months, but had the appearance of being seven months pregnant. No fœtal heart sounds could be heard, and the abdomen was filled by a tense, fluctuating tumor. The pregnant uterus was pressed into the hollow of the sacrum. The family doctor had made a diagnosis of malignant growth. The tumor ✓

proved to be the bladder, distended with fifteen pints of urine, although she had been passing a large amount daily.

Case III.—Was delivered by axis-traction forceps, but the convalescence was so uneventful that the doctor's visits were discontinued on the seventh day. On the tenth day a frightful hæmorrhage occurred. The only abnormal condition found was the bladder distended by the retention of urine for thirty-six hours. The uterus was pushed over to the right, but was found to be small and fairly contracted. It was washed out and packed with gauze, and measures to relieve the patient's desperate condition taken. Recovery was very tedious.

Case IV.—Had a normal puerperium, except for subinvolution of the uterus, and a prolonged, bloody lochia. No fever or rise of pulse. Seventeen days after delivery, while straining at stool, she was seized with an intense bearing-down pain in the lower part of the abdomen, followed by a profuse hæmorrhage. Examination revealed a cupping of the fundus about two inches above the symphysis. Blood-clots filled the vagina, while a friable, soft mass protruded through the os. The patient's condition forbade more searching examination, and the vagina was tamponed and enemata of salt water and strychnine ordered. The condition improved, and the following day she was etherized, and the mass was found to be a placental polyp attached by a pedicle to the uterine wall and fundus. In delivering itself it had partially inverted the fundus. It was removed and the uterus and vagina tamponed. The patient died some weeks later, but the cause of death is unknown to the writer. The cause of the tumor was probably a placenta succenturiata.

Case V.—Was a young primipara, who had become scorbutic while pregnant. Her gums were swollen and bleeding. Labor, however, was accompanied by no unusual bleeding, but the house-surgeon noticed increasing anæmia, while the patient complained of pressure symptoms in the lower vagina. Examination revealed the external genitals, gluteal, and perinæal regions to be the site of an enormous blue-red tumor the size of a foetal head. The hæmorrhagic condition extended around the rectum, up the right vaginal wall, into the broad ligament. The patient was in profound collapse. The patient was carefully anæsthetized by the A. C. E. mixture, and the vulva opened, and clotted blood removed. The cavity required forty-two yards of two-inch gauze to pack it. A pint of salt solution was given under each breast. Acute pulmonary œdema developed, due, evidently, to emboli, for the patient developed embolic pneumonia. She convalesced slowly, to die some months later of general tuberculosis.

Case VI.—Because of a partial placenta previa a careful manual dilatation of the os was performed successfully, and the child delivered. The patient began to bleed from every part of the genital tract, apparently, and soon was profoundly anæmic. Tamponing, pressure, hot and cold water, styptics, etc., did no good. Large circular sutures were passed, but the needle punctures bled worse than the original points, but firm tamponing over these checked the hæmorrhage. The patient was in collapse, and intravenous transfusion was practised, but the increased vascular pressure started the vagina to bleeding, and the patient soon died. No attempt was made to tie the uterine arteries, for fear of additional shock to the patient.

Case VII.—Had a badly lacerated cervix, following a breech labor. There was considerable hæmorrhage after the child's birth, and the whole utero-vaginal tract was tamponed, as the hæmorrhage was thought to be due to an atonic uterus. This packing perfectly controlled the bleeding, and the patient rallied nicely. On the third day the gauze was removed and a profuse arterial hæmorrhage followed. The whole canal was instantly repacked, but, in spite of all measures, the patient was dead in an hour. The autopsy threw light on the case. The right side of the cervix was torn, past the internal os, into the broad ligament. The whole cellular tissue was infiltrated by an enormous concealed hæmorrhage. This was a case calling for cervical sutures, although, in the writer's opinion, ordinary cervical tears are better left alone.

Premature Separation of the Placenta.

CHARLES GREENE CUMSTON (*Annals of Gyn. and Ped.*, March, 1899) was called to see a young woman, six-months' pregnant with her first child. For three months, at intervals of four weeks, a hæmorrhage from the vagina, lasting several days, and accompanied by a sensation of heaviness in the lower abdomen, had occurred. At the time of examination the pulse, temperature, and urine were normal, but a bloody discharge had been present for twenty-four hours. Rest in bed and tinct. opii in full doses controlled the bleeding in a few hours, but a week later a sudden hæmorrhage took place. On examination the uterus seemed larger than normal, and the foetal heart sounds were indistinctly heard. The os was not dilated. The vagina was tightly packed and hypodermics of strychnia given. Labor-pains appeared, and within an hour the gauze was removed, and the cervix was found to be dilated to the size of a silver dollar. Hæmorrhage began, but the

cervix was quickly dilated; the placenta, completely detached and presenting, was delivered, soon followed by the fœtus. A hot intra-uterine douch and ergotin were given. Recovery speedy. Macroscopical and microscopical examinations of the placenta failed to reveal any pathologic change. In a similar second case microscopical examination showed fatty degeneration of the decidua. Hegar believes 'his to be the cause in all cases of premature separation of the placenta. Dohrn considers this complication to be due to the elimination of necrotic tissue from embryonic cell formation, similar to that produced by granulating surfaces.

As the primary cause of premature detachment of the placenta, uterine contractions, or traumatism, must be admitted, which give rise to hæmorrhage at the site of the placental attachment to the uterine cavity. The changes in the blood of a pregnant woman both quantitative and qualitative, must be remembered, as they render the uterus more liable to hæmorrhage. To this may be added the mechanical action of the gravid uterus pressing on the inferior vena cava, producing an engorgement of the abdominal vessels.

The predisposing causes are: (1) The pathologic condition of the blood and vessels already given; (2) nephritis, especially of the parenchymatous type; (3) hyperæmia of the uterus, due either to arterial hyperæmia or venous stasis. The former may be caused by endometritis or metritis, the use of drastic purgatives, alcoholism, hot baths, etc. Venous stasis may be caused by the pressure of a very large uterus, neoplasms in other abdominal viscera, tight-lacing, or excessive exercise. Pathologic changes in the placenta or decidua, displacements of the uterus, and diseases of the liver, heart, or lungs may be factors in premature separation of the placenta, while anæmia and hæmorrhagic diathesis following severe infectious diseases are often causes. Goodell regards repeated pregnancy as a predisposing cause.

In direct causes are included traumatisms of all kinds. In some cases coughing, sneezing, or vomiting seem to have been directly responsible. The lifting of heavy weights has been a frequent cause. Schröder says that a short umbilical cord may give rise to the accident. Hydramnios may also produce it.

Internal hæmorrhage occurs if only the central part of the placenta is separated from the uterine wall, or where the ovum prevents the blood from making its exit. The symptoms are bearing down sensations, severe abdominal pains, vomiting, all the symptoms of anæmia, such as pallor, dizziness, ringing in the ears, dimness of vision, and syncope. Death is sometimes preceded by convulsions. Another

symptom is the increase in size of the uterus from the issue of blood into its cavity. The shape of the uterus becomes changed, though authorities differ as to a characteristic shape.

External hæmorrhage is quickly noticed, and, if unchecked, will be followed by the same symptoms. Usually the two are coexistent.

The differential diagnosis between this condition and placenta previa is not very difficult. Hæmorrhage from placenta previa is always sudden, no cause can be attributed, and it is unattended by abdominal pain or uterine contractions. In hydramnios the increase in the size of the uterus is usually gradual, but when it is rapid and accompanied by pain the pulse is hard and full, while in concealed hæmorrhage it is rapid and thready.

An erroneous diagnosis of apoplexy or paralysis of the heart may be made, but a digital examination, when even slight dilatation of the os exists, will reveal by the distention of the membranes the fact of internal hæmorrhage.

The patient's weak condition is best met by artificial serum injections, while the subcutaneous use of strychnia will increase the uterine contractions and hasten delivery, which is to be desired.

For external hæmorrhage, the packing of the vagina, a tightly applied abdominal binder, and, if needed, an ice-bag over the uterus, are indicated.

If the bleeding is profuse, the os must be dilated manually and the membranes ruptured with a fine instrument, so that the amniotic fluid will drain away slowly. The writer considers "accouchement forcé" dangerous. In concealed hæmorrhage an early rupture of the membranes is unfortunate, as the intra-uterine pressure is thus lessened and the hæmorrhage will become more severe.

The delivery of the placenta must be done with care, and the patient kept very quiet in the horizontal position for some days, to avoid the danger of post-partum hæmorrhage.

Packing the uterine cavity and vagina with gauze for forty-eight hours is recommended, and after that a pill of ergotin and hydrastin t. i. d. for one week.

If post-partum hæmorrhage occurs, compression of the abdominal aorta, or bimanual compression of the uterus should be used. Intra-uterine irrigations of the sesquichloride of iron, or of vinegar, alum or tannin (if the iron salt is not at hand) are of much value.

For stimulating the heart, subcutaneous injections of ether, camphor, caffeine, or musk may be used.

R Camphor, trit., 2.0.

Ol. olivæ 10.0.

M. S. For hypodermic use. Each c. c. contains 20 centigrams of camphor; is a good formula.

Enemata containing cognac in considerable amount have a rapid effect, and should not be neglected.

Liquid nourishment must be used often, but in small quantities.

The mortality in these cases has been high; 50 per cent. for the mother, and 95 per cent. for the child; but, with care, it should be reduced, at least, for the mother.

Albuminuria in the Puerperium.

H. C. MABLEY (*Cleveland Jour. of Med.*, March, 1899) says that albuminuria occurring in the puerperium may be due to

1. A continuance of the renal conditions present before and during labor, and known as the "kidney of pregnancy."

2. Albuminuria may exist during this period in women suffering from a nephritis, either developed during pregnancy, or existing prior to that time, aggravated by gestation and parturition.

3. Nephritis, depending upon an infection of the genital organs, is not uncommon in the puerperium. It often occurs as a complication of uterine phlebitis and lymphangitis.

4. Mammary inflammation may cause nephritis.

5. Nephritis may occur as an intercurrent affection, resulting from cold or toxic agents, the conditions present in the kidneys at this time possibly rendering these organs more susceptible to such influences.

6. Albuminuria may be due to catarrhal or suppurative affections of the bladder and ureters, to pyelitis, or, rarely, to perinephritic abscess.

7. Valvular lesions of the heart, with failure of compensation before or during labor, constitute a possible cause for the appearance of albumin at this time.

A case, presenting some unusual features, may be briefly cited.

The patient, aged 39 years, had given birth to three children; the last one, born seven years before, weighed thirteen pounds at birth, and died of convulsions when four days old. When seen by the writer she was about two months pregnant, and complained of nervousness, insomnia, and shortness of breath. These symptoms continued during the entire pregnancy. The abdomen was abnormally distended, producing great discomfort. The urine was frequently tested, but no albumin was found until the last month, and then only a trace. An examination on the day before labor showed only this trace. The heart was normal. Labor was normal, though the liquor amnii was exces-

sive. The child weighed over twelve pounds, and was asphyxiated, and could not be revived. The patient's condition was normal until the fourth day, when she was seized with sharp pain in the loins. Nausea and vomiting followed, and the tongue became coated and dry. There were marked pallor, slightly dilated pupils, and shrunken features. The extremities were cold and clammy. Temperature, $99\frac{1}{2}^{\circ}$, pulse 90. The urine was scanty and dark. Examination showed casts and blood, with albumin, $\frac{1}{3}$ in bulk. The patient's condition improved under free stimulation, application of heat to the extremities and over the kidneys, and the use of diuretics, until at the end of a week the albumin had diminished to $\frac{1}{20}$ in bulk. Progress was steady, and in two weeks the patient was passing fifty ounces of urine a day, which contained not a trace of albumin. Two months later the urine was normal, and there was no trouble in the heart or lungs; but the patient complained of insomnia, nervousness, cramps in the legs, and occasional sick headaches. Her mother and sister had died from Bright's disease. In seeking an explanation of this case, the choice seems to lie between a latent interstitial nephritis and an acute nephritis, supervening to the milder degree of injury inflicted upon the kidney by pregnancy, and having as its exciting cause either puerperal infection or possible cold. The fact that the mother and sister died of Bright's disease shows a possible hereditary tendency to kidney degeneration, which would be apt to show itself when the kidneys were subjected to unusual strain. The future history of the patient will probably throw light on the cause of the sudden albuminuria.

The Post-partum Management of Uterine Displacements.

EUGENE COLEMAN SAVIDGE (*N. Y. Med. Jour.*, March 11, 1899) says that all post-partum displacements are of the same general nature, and, in whatever direction, are due to enfeebled muscular power, the improvement of which should be sought for in early pregnancy or even before conception; they are also often due to overstretching of the perinæal muscles during labor, in order to avoid laceration; and the writer believes that a laceration of the perinæum—assuming careful suturing—is better than a muscle which may be left untorn but is functionless from overdistention.

The writer believes that these uterine displacements—due to muscular and vital debility—lead to still further muscular and vital debility, and are responsible for cardiac, renal, and arterial changes that materially shorten life. We can do much to prevent these displacements,

but we cannot always succeed ; we can also do much in early treatment ; but there remain many cases, especially those which have gone untreated that we cannot cure.

Trusting post-partum cases to Nature is entirely wrong. Too much has been said about "meddlesome midwifery." It is much better to interfere with Nature than to let Nature go all wrong, as the writer considers her quite likely to do. In many other regards the scientific product is far superior to the natural one—*e. g.*, the educated man to the peasant ; and our scientific knowledge should be devoted to remedying the natural defects of the process of parturition.

The womb rarely returns to its natural size before the end of six or eight weeks, and the writer cannot urge too strongly that a woman should be under observation till complete involution has taken place. "Post-partum care will prevent many displacements, will correct more and will relieve the symptoms of those that persist." The tampon should be used as a routine practice from the tenth day on, in order to reduce engorgement, support the heavy organ, and stimulate involution. Lacerations at the neck of the womb do much to delay involution ; they may heal spontaneously, but, in any case, they should not be left without watching, so that such measures as may be necessary may be taken. Of course, it is necessary to educate the laity to an appreciation of the importance of so much generally neglected after watching and treatment.

Milk as a Diet for Nursing Women.

A. B. LINDSAY (*Mass. Med. Jour.*, March, 1899) recommends milk as a diet for delicate mothers with deficient lacteal secretion ; by "delicate" he does not mean actually diseased women, but those whose weight is below average, who have little color, eat lightly, and have small mammae, usually from a deficiency of adipose tissue. Some such, it is true, do not bear a milk diet well, and it may be necessary to abandon it ; but it is very advantageous in such cases as can take it, as the three instances cited show.

The first was a woman below medium height, pale, and of an average weight of eighty-six pounds. She had failed to nurse three previous children. The fourth, a boy, weighing eight pounds, nursed vigorously, but it was apparent in a week that he was not getting sufficient nourishment ; additional feeding was resorted to, with green stools as a result. A milk diet was then prescribed for the mother ; in two days the baby was well, and the mother, for the first time in her life,

felt some painful distention of the breasts. At two months the child weighed 13 pounds, and the mother was taking two quarts of milk daily, besides her regular food. The child nursed till eighteen months old (against advice), when he weighed 26 pounds; the mother then weighed 105 pounds, and her general health was much better than for several years.

The second case, a woman, dyspeptic for several years before marriage, of average weight, from 106 to 112 pounds, was put on a milk diet a few days after labor (which had been followed by considerable flooding); her breasts, which had been flaccid, soon filled, and she nursed the child without trouble; he grew large and heavy (weight not given), and the mother increased her own weight to 127 pounds at the time of weaning.

The third case, a woman, weighing about 100 pounds, had lost one child in consequence of failure to nurse and hand-feeding. Upon a milk diet she nursed her second child, who now, at the age of seven months, weighs 21 pounds; while the mother's weight has increased to 116 pounds.

The writer has used the milk in various combinations, but concludes that it is better without farinaceous admixture.

Lifting and Manipulation of the Uterus through the Abdominal Wall to control Post-partum Hæmorrhage.

Manual Extraction of the Placenta, the Fingers Enveloped in Membranes.

ROBERT L. DICKINSON (*Brooklyn Med. Jour.*, March, 1899) advises the following procedure in cases where the bleeding comes from an *empty uterus*. It is applicable in cases where no degree of contraction can be secured, in those where contraction is intermittent, when other measures have not had time to act, and where the blood loss is not sufficient to warrant packing the uterine cavity. Ordinary friction of the fundus, even with one hand in the vagina, is inefficient on account of the relatively small uterine surface manipulated. Now the elasticity of the recently stretched parts allow the fundus to be lifted nearly or quite to the dorsal vertebræ by pulling up the fundus through the abdominal wall; the right hand is then arched, its ulnar border resting on the symphysis, while the finger-tips and thumb encircle the narrow and relaxed lower uterine segment and neck as far as possible through the abdominal wall; the left hand grasps the fundus with friction

and compression against the promontory and lumbar spine. At intervals of a few minutes the fundus should be crowded down into the pelvis and then lifted again; this is to squeeze out any clots that may form in the vagina.

The writer thinks that irritation applied to the cervix is more effective in producing reflex contraction than to any other part. The objection might be raised that this method might give rise to "hour-glass contraction" with the retention of clots, but the writer has not seen this occur. The procedure can be adopted only with an empty uterus, so cannot be used to empty the uterus of placenta or membranes; nor is it available when good contraction exists, the round ligaments holding the uterus down, but it is not necessary in such cases. Some compression is exerted on the uterine and ovarian arteries, and it is possible that the traction upon them also lessens the flow of blood. These manipulations do not interfere with the use of the hot douche. It is true that very sensitive women may resist, and it is also true that a moderate concealed hæmorrhage might exist without the obstetrician's knowledge, but the latter is obviated by occasionally forcing the uterus into the pelvis.

When a retained placenta has to be removed by hand, the fingers should work *through* the membranes whenever possible: the cord is drawn tight, the edge of the membrane seized, and the lubricated hand guided by the cord to the middle of the placenta. when an attempt to grasp and remove the placenta bodily may be made; if this fail, palpate the edge of the placenta, and try to insinuate the fingers, covered with plenty of slack from the membranes, with a side-to-side motion between the placenta and the uterine wall. Of course, the membranes may break, but, usually care, plenty of slack, and the use of the fingertips rather than the nails will succeed in detaching the placenta; and the uterine surface is thus saved from contusion and possible infection. Usually the membranes slip from their own attachment to follow the fingers. Of course, a truly *adherent* placenta cannot be removed by this method, but must be dug away in the usual manner.

Labor at Twelve Years, with Complications.

M. J. MAGRUDER (*New Orleans Med. and Surg. Jour*, April, 1899) reports the case of a white girl who became pregnant when eleven years and ten months old. Gestation was uneventful, very little nausea or other disturbance. Labor was slow, but normal, and a living child,

weighing nine pounds, was delivered. Almost immediately hæmorrhage began, the uterus being completely relaxed. The placenta was removed, and, no ice being obtainable, hot water was used, raising the temperature (before the hæmorrhage could be controlled) to such a degree as to completely destroy the uterine mucous membrane, which was, a few days later, thrown off *en masse*. Although the hæmorrhage was not very profuse, the little patient became unconscious and pulseless. Hypodermics of strychnia, digitalin, atropia, and nitroglycerin were given, without effect. As soon as the necessary appliances could be procured, about two pints of saline solution were injected into the cellular tissue of the abdomen and beneath the breasts. The patient remained pulseless for nearly four hours in all, and did not regain consciousness until twelve hours after delivery. Convalescence was very slow, but four months later both mother and child were perfectly well.

Hydramnios—History and Symptoms.

ELIZA H. ROOT (*Women's Med. Jour.*, April, 1899) says that the ordinary statement in text-books that hydramnios rarely appears before the fifth month is misleading. A more correct statement would be that it is seldom recognized before that period. Dr. Maygrier of Paris reports two cases, both syphilitic, in which hydramnios was marked as early as the second month, one patient's abdomen reaching the size of full term at the fifth month. Gestation was terminated in this case at the sixth month, fourteen pints of fluid escaping.

Hydramnios repeatedly presents itself in the same individual. The disease seems more apt to occur where retro-displacement or prolapse of the uterus exists. Syphilis is a common cause.

The opinion is held by many able writers that hydramnios is often preceded by oligo-hydramnios. Brem of Buda-Pesth reports a case of twin pregnancy, in which one foetus was normal, with hydramnios, and the other acardiacus, with oligo-hydramnios.

There is, perhaps, no disease of the ovum more disastrous to foetal life than hydramnios. It is said to be fatal in 25 per cent. of the cases. The prognosis for the mother is better. Where the increase of the fluid is slow, and the quantity not greatly in excess of normal, the malaise associated with pregnancy is increased, but the maternal health is not seriously compromised. Where the increase is rapid, and the fluid excessive in amount, great discomfort is caused by the undue abdominal distention, and premature labor often occurs. Occasionally

the mother's health becomes so impaired that intervention is necessary to save her life.

Some of the symptoms associated with hydramnios are characteristic. There is more or less pain in the abdominal, hypogastric, lumbar, and sacral regions. In the later months of pregnancy there may also be pain in the intercostal regions. The uterus is often extremely sensitive, sometimes over the entire uterus, or there may be hypersensitive areas. There is more or less dyspnoea. Constipation is a constant symptom, though diarrhoea may occur toward the end of the pregnancy. The urine is usually scanty and high colored, or this condition may alternate with periods of abundant and pale urine. Albumin may or may not occur. Traces of sugar are common. The appetite is poor, and there may be vomiting and loss of flesh. Œdema of the extremities, face, or entire body is usually present. The temperature is usually normal, but the pulse is accelerated.

Little can be done in the way of treatment. The food must be palatable and easily digested. Elimination of waste-products by the skin, kidneys, and bowels must be maintained. Strophanthus with nuxvomica, or strychnine, is an excellent support to the heart. Strychnine phosphate, grs. $\frac{1}{10}$, to grs. $\frac{1}{30}$, t. i. d., may be given for a few days before labor, to secure efficient uterine contraction, and, as a prophylactic against post-partum hæmorrhage, an accident which often occurs in cases of hydramnios.

The External Application of Cold Water to allay Persistent Vomiting.

WILLIAM FRANCIS MITCHELL (*Virginia Med. Semi-Monthly*, April 14, 1899) says that cold water is recognized as one of the greatest therapeutical agents. It is used to reduce the temperature, quiet the nervous system, arrest hæmorrhage, and control inflammation. The writer was called in consultation to a lady nearing the time of her confinement, and suffering from constant vomiting. Medicines were administered that controlled the vomiting temporarily, and labor was concluded two days later. The vomiting increased, and was so persistent that life was despaired of. Her pulse was 120 and weak. No medicine could be retained. On a second visit, three days after her confinement, applications of towels wet in ice-water over the epigastrium were ordered. These were to be changed every minute. After twenty minutes there was prompt relief. This treatment was ordered to be repeated in case vomiting should begin again. This occurred several times during the day, but was speedily controlled by the application of

the ice-cold towels. Her pulse came down to 80, and in twenty-four hours she was resting comfortably, and had no return of the vomiting.

The vomiting in this case was reflex, and undoubtedly due to the uterus, while the stomach was congested as a sequence of long-continued vomiting. Reducing the congested state of the walls of the stomach through the vasomotor nerves inhibiting the blood supply to that organ, restored quiet and relief to the patient. The effect of cold can be gained much more efficiently through the medium of water than any other way, as closer contact can be obtained.

The condition of the heart must be watched, but under ordinary conditions cold water is a safe, prompt, and efficient remedy, controlling vomiting when all other therapeutic measures fail.

CANADA.

The Local Treatment of Intra-uterine Sepsis.

A. GROVES (*The Canadian Prac. and Review*, March, 1899) says that the usual treatment of first curetting the uterus and then washing it out every few hours with some antiseptic solution has not been followed by uniformly good results. Continuous irrigation is a great advance upon this, but is wearisome to the patient on account of the length of time it has to be kept up.

In a case of intra-uterine sepsis there is a flabby uterus with feeble contractile power; while inside the uterus are decaying shreds and open absorbents bathed in a highly septic fluid. The treatment used by the writer, with unvarying success, is as follows: The uterus is first explored by the finger, and fragments of retained placenta of any size removed with the finger-nail. Next, a cylindrical glass or hard-rubber speculum of large caliber is introduced, and through this the uterus is washed out thoroughly with warm water, passing the tube up to the fundus. A No. 10 gum-elastic catheter would answer very well for this purpose, having a syringe-bulb attached. When the water comes back clear, the syringe-bulb is filled with tincture ferri perchlor., which is injected through the tube still passed to the fundus. The uterus contracts and expels the fluid, which escapes through the speculum without coming in contact with the vagina. Should the uterus fail to expel the iron, a second syringe-full is at once given which will at once come away.

The uterine cavity is again washed with warm water, that none of the iron may trickle down and excoriate the vagina. The treatment

should be repeated in thirty hours, and again, if trouble still persists. The objects attained are, the instantaneous destruction of every germ exposed to its action; the sealing up of all absorbents; and stimulation of uterine contractions.

In proof of the satisfactory results of this treatment four cases are cited, in the order in which they occurred, and without selection.

The first was seen by the writer a week after delivery. Her temperature was 105° pulse 136, and general condition bad. The injections of iron and treatment outlined above were used and a steady recovery was made.

The second case had a chill on fourth day, followed by a temperature of 103° . Only two treatments were needed to bring her condition back to normal.

In the third case washing out the uterus with antiseptic solutions was tried for two days after the first rise of temperature, but the patient grew rapidly worse. Two treatments of the iron were given and recovery was prompt.

The fourth case, seen in consultation six days after confinement, was in an apparently hopeless condition. Three treatments, at intervals of twenty-four hours, were all that was required to terminate the trouble.

GYNÆCOLOGY.

UNITED STATES.

The Uterus again.

E. F. FISH (*Ann. of Gyn. and Pæd.*, March, 1899) adduces the following reasons for leaving the uterus, whenever possible, in radical operations on the tubes and ovaries and in operations on the organ itself: (1) It is an important sexual organ in its natural site, and, therefore, not in the way of any other organ. (2) It preserves the vaginal vault, and, when properly suspended, the contour and length of the vagina. (3) Because it precludes vaginal hernia and prolapse of the vagina, and delays atrophy of the vagina. (4) Because it minimizes nervous shock and depressing mental manifestations. The writer seems to think that hysterectomy is more likely to disturb the mind of the patient than oöphorectomy, and the nervous sequelæ are too frequent and of too serious a nature for any means of lessening them to

be ignored. The writer thinks that the effect of hysterectomy may be depressing or buoyant according to the cause that leads to the operation; and cites the case of a young woman that had a pan-hysterectomy six months ago for the widespread consequences of an acute gonorrhœa, who is now beginning to suffer from attacks of mental depression; while many women that have had hysterectomies for cancer are happy and contented, though of course it is true that these latter cases usually occur at or after the menopause. (5) The last reason is because in the event of successful ovarian transplantation, the uterus might be reinstated as an organ of procreation. Knauer and Chrobak, in experiments on rabbits have proved that the ovary can be transplanted, and will grow and resume its offices; but their experiments seem to have been confined to excising the ovary and attaching it to other parts of the abdomen in the same animal. The author, however, in a series of experiments still under way has shown that in the lower animals at least the ovary can be transplanted from one to another without danger, and he has already made some twenty successful transplantations; such bad results as he has had have all been due to faulty technique, easily modified in an important operation. Sufficient time has not yet elapsed to show whether in the writer's cases the function of the ovary will be resumed and conception follow. If these experiments upon the lower animals prove successful, why may not the principle be applied to women? Frequently it is necessary to remove normal ovaries in pathological conditions of the uterus, frequently also to remove diseased ovaries where the uterus is perfectly healthy; will it not be possible in such cases to transplant the normal ovaries so that they can harmonize with the normal uterus?

(Suppose such a proceeding were to be possible and successful, interesting questions of heredity would arise and medico-legal considerations of untold nicety. Who would be the mother, for instance? She who had supplied the ovum or she who had brought it a happy consummation? Frequently it has been a matter of some delicacy to decide the fatherhood of a child, but the maternal complicity has always been regarded as incontestable; we have always felt that there at least was a foundation as firm as the rock of Gibraltar, or what the latter is pleased to compare itself with—the Prudential Insurance Company; and now science is about to knock this from under our feet. Could a woman claim to be virtuous still on the ground that some other woman's ovum had crept into her uterus and there become impregnated, and would the party of the second part have to blush at being the mother of a child, even though she had no uterus at all? And when all was

said and done—and the child born—and the three parents dead—what, in Heaven's name, would the residue be—a tri- or a sequi-orphan?)

The Advantage of the Suprapubic over Vaginal Cæliotomy.

JOHN W. WHITBECK (*Med. Review of Reviews*, March 25, 1899) wishes to prove that the surgeon can do more and better work in the pelvis and abdomen by operating from above the pubis than below it.

The rapidity of the vaginal operation in certain cases, the drainage, the repair, the absence of scar or hernia, are not to be disregarded, but while diseased organs can be removed through the vagina, the same organs can be taken away through an abdominal incision, and if any complications exist the complexity can be more correctly, more safely, and more conservatively treated from above than from below. "The vaginal route, with its limited inlet, its deep, dark subway, is not, cannot be, the wide-open field which the abdominal route is, and, therefore, should not be substituted for that great highway, but should be reserved for special and appropriate cases."

The writer cites nine cases operated on by abdominal incision in which there was perfect recovery. In two of these cases a previous operation per vaginam had been performed without relief. In four cases the unsuspected complication of appendicitis was found, which would have necessitated another operation had the vaginal route been chosen for the operation for pelvic trouble.

Posterior Colpotomy: A Conservative Surgical Procedure.

A. J. PULS (*Medicine*, April, 1899) says that not only exact diagnosis of cases of chronic disease of the female generative organs is necessary, but also close discrimination in the method of operation to be chosen in each individual case.

It is impossible to sharply define the field limited to cæliotomy or to colpotomy. Those following the vaginal method unfortunately extend the operation to the entire field of intraperitoneal surgery, and on this account the operation has fallen into some discredit, as in order to accomplish its purpose the uterus is often sacrificed or mutilated and the intestines perforated or otherwise injured. Often the operation has to be abandoned on account of firm adhesions or excessive hæmorrhage, and a suprapubic incision has to be made.

There is no difference of opinion as to the treatment of simple pelvic

abscess or serous exudates within Douglas' pouch. Evacuation of the fluid, followed by drainage, invariably effects a cure. But modern gynæcologists are diametrically opposed in their views as to the proper method of operation for chronic pelvic affections complicated by adhesions, and statistics do not yet prove the superiority of either the suprapubic or the vaginal route.

The object in operating for pelvic disease should not be the performance of a surgical feat, but the relief of the patient by the simplest method.

A knowledge of the cause of infection is necessary to establish the right course of treatment at the outset. Many acute inflammatory pelvic processes yield to the expectant treatment, absorption of the exudative masses taking place. But in many cases invalidism is due to the presence of pus which has withstood absorption for many years. Removal of the encysted pus is often followed by complete restoration to health, without the sacrifice of the generative organs.

The pus focus should be attacked at the anatomical point most accessible. Pyosalpinx and hydrosalpinx closely adherent to the vagina may be permanently cured by an incision and drainage of the distended sac without removal of the tube.

A case of double pyosalpinx, where the uterus was wedged in by two tumors, one as large as a child's head, and low in the pelvic cavity, the other smaller and higher, was operated on a year ago. An incision was made into each pus-sac through the posterior vault and drainage established by iodoform gauze. The patient has since been in excellent health. Abdominal section was out of the question, as the very thick and firm adhesions of the sac to the pelvic floor would have prevented an enucleation.

Pelvic hæmatocele or retro-uterine hæmatocele may be safely incised through the posterior vaginal vault, and relieved by emptying the hæmorrhagic contents. For ruptured tubal pregnancy, posterior colpotomy has been repeatedly performed by the writer with marked success and with less shock than is noticed after a laparotomy. But in extra-uterine gestation before the period of rupture, or during rupture into the free peritonæal cavity, hæmorrhage is checked more safely through a suprapubic incision.

Anterior as well as posterior colpotomy is used for the removal of small pelvic tumors. Separation of uterine adhesions, and fixation of the uterus to the vagina by anterior colpotomy are preferable in some cases, especially whenever vaginal or perinæal operations are indicated on the same patient.

The Value, Limitations and Alternatives of Topical Applications in Gynaecology.

E. C. DUDLEY (*Northwestern Lancet*, April 1, 1899) says that the principal procedures in local treatment are the hot-water vaginal douche, tamponade, and intra-uterine applications.

Unless the rules for the use of hot vaginal douche, as laid down by Emmet, are strictly followed no good results can be expected. They are briefly as follows: The douche must be given with the patient lying on the back with hips elevated. The temperature of the douche must be as high as can be borne without discomfort. The douche must be given at least twice a day; and the treatment must be continued for weeks, or even months.

The douche acts as a vaso-motor stimulant and as a cleansing agent. The stimulating effect of the hot water on the vaso-motor nerves has much the same effect as that of massage after the Brandt method. The dilated vessels contract, congestion is lessened and local nutrition improved.

The indications for the douche are chiefly chronic pelvic inflammations. In uterine hæmorrhage very hot douches are beneficial. The use of the douche in the routine treatment of other pelvic disorders should be discouraged. In the normal vagina the douche may render the surfaces more liable to infection by washing away the natural acid secretions.

The principal indications for tamponade are inflammation and hæmorrhage. Tamponade acts as a means of pressure, as a medium for the application of medicine, and as a drain. The pressure effect is chiefly useful in the treatment of displacements. Its use as a vehicle for medicaments is most common. But its therapeutic value has been greatly overestimated. If used at all, it must be applied daily or it is worse than useless.

Vaginal hæmorrhage may be controlled by a tampon, but it is better to find and secure the bleeding points. Where the bleeding is from the uterus the intra-uterine tampon of a continuous strip of gauze about two inches wide is better. This must be changed daily. For elastic pressure, fine lamb's wool is superior to absorbent cotton.

The permanent arrest of long-standing uterine discharge by topical applications to the endometrium is rarely accomplished, chiefly because it is not only not indicated, but is even injurious in most cases. Two classes of cases must be excluded: (*a*) Cases where there is a distinct local infection, in which there is a purulent discharge from the uterus,

where the endometrium is an abscess cavity, and the uterine mucosa the wall of this cavity. In such cases direct treatment to the diseased structure is indicated. (b) Cases that clearly call for systemic treatment.

Intra-uterine applications to be effective must arrest the discharge, but in so doing they may destroy the endometrium, injure the myometrium, and reduce the uterus to a cicatricial condition. The routine treatment, by the use of strong caustics, should be prohibited. Electricity lies open to the same objections, though it is sometimes useful in a flabby uterus, especially in cases of myoma. Increasing quantities of a narrow strip of aseptic gauze packed into the uterus at successive treatments until the endometrium is dilated permits excellent drainage when the gauze is in place.

Carbolic acid and iodine do well in glandular endometritis as far as topical treatment goes. Ichthyol is sometimes useful in interstitial endometritis.

There is a common impression that severe infectious cases should be treated surgically, and that non-infectious or slightly infectious cases should be treated by topical applications. A large proportion of these latter cases need medical treatment with careful attention to general and sexual hygiene.

In the glandular forms of endometritis the sharp curette offers both a symptomatic and histological cure, but when the disease is in the atrophic stage only partial relief can be given by curettage. Where there are still greater complications, extensive chronic and obstinate pelvic infection, the uterine discharge will persist in spite of curettage, and hysterectomy may be the only way to relief.

Topical treatment should seldom be long continued. It has a more legitimate place as a supplement than as a substitute for systemic and operative treatment. A reproach will be lifted from the medical profession when its indiscriminate and frequent use shall have been relegated to the dark ages of gynæcology.

GREAT BRITAIN.

Hysterectomy as a Conservative Operation.

J. BLAND SUTTON (*Brit. Med. Jour.*, April 8, 1899) remarks that the health of a woman suffers less during her sexual life from the removal of the uterus than from that of the ovaries. We know that the endometrium is the organ of menstruation, though the function is

governed by the ovaries. Moreover the ovarian influence is exerted in some way upon the vaso-motor functions, as is demonstrated by the occurrence of "the flushes" which follows the removal of the ovaries during sexual life; which disturbance does not follow the complete extirpation of the uterus, though the amenorrhœa is of course complete. Nor is "conservative" hysterectomy, the removal of the uterus with the preservation of at least one ovary, followed by these vaso-motor symptoms. It is necessary to realize that to abolish the ovarian influence over menstruation, complete removal of the ovaries is necessary. In many cases reported in which menstruation continued, the observers have not satisfied themselves as to the facts; the writer cites one case in which the bleeding proved to be from internal piles and ceased entirely upon their removal. Continued menstruation after oöphorectomy also occurs: (1) where the operation has been for inflammatory lesions, and (2) where done to anticipate the menopause in cases of myomata. When the ovarian tumors are of large size and the mesometrium has been well stretched, complete removal of the ovaries is possible and is followed by absolute amenorrhœa; but with swollen and adherent uterine appendages, it is not easy to be sure that some fragments of ovarian tissue have not been left. A case is cited in which this was proved to be true by a secondary operation. Persistent menstruation after oöphorectomy for the relief of infective lesions is not usually of much importance, though it may require subsequent removal of the uterus. But when menstruation persists after an oöphorectomy done for the purpose of producing amenorrhœa in cases of uterine myomata, it of course renders the operation abortive. It is often due to incomplete removal of the ovaries, it being especially difficult in many of these cases to know whether or not all ovarian tissue has been extirpated. A more frequent cause of the continued bleeding is a submucous myoma, the cause being established by the cessation of the symptom on the subsequent removal of the tumor.

Because a function is abolished by extirpation of an organ it does not follow that it is governed by that organ: thus, we can arrest menstruation surely by the complete removal of the uterus, yet we know that the function is under the control of the ovary. The channel through which this influence is exercised is not entirely obvious, as the tissue connection between the ovary and the uterus may be completely divided and yet the function continue.

When, then, we wish to abolish menstruation completely, the most certain way is by extirpation of the uterus. The occasional necessity of such a proceeding becomes necessary in hæmatometra due to con-

genital occlusion of the cervical canal. The usual treatment by incision and evacuation is liable to result in sepsis, or at the best, in a very unsatisfactory state of affairs which often leads to more radical operation later; and there is no case on record in which a woman who has suffered from hæmatometra from atresia and who has undergone these attempts to restore the patency of the canal has ever successfully conceived; the operation is dangerous, and the uterus is useless and a source of anxiety and danger. Here then we must consider its extirpation at the beginning as a conservative measure.

A condition of the uterus to which sufficient attention has not been given is one that occurs usually in mothers from 35 to 45 years old, who find that they suffer from profuse menorrhagia; dilatation of the cervical canal results in tears rather than stretching, the endometrium is smooth but the uterine walls are hard and the curette makes a harsh, grating sound when passed over them. Curettings relieve only for a time; and the writer has had three cases of this sort in which, after curettings and treatment of various kinds he performed hysterectomy with success and permanent good results. In these cases the uterus was found to be large, with thick, tough walls and prominent and thickened arteries; microscopically, the muscle tissue was replaced by fibrous tissue, the fibrotic changes being probably secondary to infective chronic metritis.

Before the days of antisepsis and asepsis, the surgical treatment of uterine myomata was a dismal failure. Afterwards three methods came to be employed: (1) abdominal enucleation, (2) the clamp, *serre-nœud*, and elastic ligature, and (3) oöphorectomy, to anticipate the menopause. These measures have been abandoned in favor of the intraperitonæal method since Baer has demonstrated that it is not necessary to ligature the neck of the uterus, but simply to secure the ovarian and uterine vessels—a fact which has revolutionized hysterectomy. The writer found that by this method hysterectomy could be performed with no greater risk than oöphorectomy, and began to abandon the removal of the ovaries until finally he deliberately substituted hysterectomy for oöphorectomy in selected cases, purely upon conservative grounds and with the object of abolishing oöphorectomy in the treatment of myomata, being convinced that the uterus is less material to a woman's well-being than her ovaries.

It seems, however, that the ideal method of treating myomata is enucleation, with preservation of the uterus as well as the ovaries. The operative disadvantages are many, however; the greater length of time required, the loss of blood, the additional shock and the danger of later

hæmorrhage; this last danger may be met by securing the edges of the capsule to the parietal incision, but this lengthens the period of convalescence and adds the possibility of a sinus remaining. Moreover, we cannot be sure that one or more smaller tumors may not remain undetected and thus render the operation futile; one uterus removed by the writer contained 102 myomata of varying sizes. The advantage claimed for enucleation—that it leaves the uterus—is a doubtful one, as it has yet to be proved that women that have had submucous myomata enucleated have subsequently conceived. Myomatous uteri may become gravid but when they do so, are often a source of great peril.

Myomata usually arise during the sexual period of life, thus ninety-six out of a hundred cases tabulated by the author were still menstruating, showing that the ovaries were functional and worth preserving. Of course it is necessary to examine these glands carefully to be sure that they are free from disease; tubal distention is a contra-indication; often one ovary is cystic and this of course determines its excision; often one ovary has a longer pedicle than the other, thus facilitating its removal; and if the operation is rendered easier by taking away one ovary, the other is quite sufficient to leave. What the writer wishes to emphasize is the great influence of the ovaries and the preference of sacrificing the womb rather than both ovaries, the womb not being a vital organ, and its removal not entailing any remote inconvenience.

PÆDIATRICS.

UNITED STATES.

The Technique of Adenoid Operations.

J. HOLINGER (*Chicago Med. Rec.*, March, 1899) calls attention to the anatomical conditions of the nasopharynx with regard to the convenience and efficiency of adenoid operations. The vertebral column and the base of the skull make a right angle, the axis protruding into the nasopharynx. Throwing back the head or raising the chin makes this angle more acute, and it is impossible for any instrument to pass the lower teeth, the hard and soft palate, and enter this angle deeply. The proper position is as follows: The child is held on the nurse's right knee; the operator stands to the right and behind, holding the head under the left arm; the instrument is then introduced behind the soft palate, and, with the mouth open, the head is lowered till the chin is

as low as possible, when the instrument is pressed perpendicularly upward, and the scraping done in this position. Thus, the angle is changed into a half-circle, as may be demonstrated by skiagraphs; the tumor masses also cannot fall into the œsophagus or larynx. A wedged-shaped rubber mouth-gag is used, and the head steadied by means of the handle of the gag, held in the left hand. The same position is applicable to the examination of the nasopharynx, and it will be seen at once how much more room is afforded. The writer prefers bromide of ethyl as an anæsthetic in these cases.

Three Cases, Non-Tubercular in Origin, simulating Pott's Disease.

CHARLES F. PAINTER (*Ann. of Gyn. and Ped.*, March, 1899) reports three cases, the first two in adults, the third in a child of seven years. This child had complained of pain in the side and back for two weeks, also in the shoulders, elbows, and hips; she carried herself somewhat stiffly, leaning over towards the right side; there was some rigidity of the spinal muscles, but no trace of a kyphosis. The pains were relieved by rest in bed and sodium salicylate. Two or three weeks later there was some prominence of two or three of the spinous processes of the lower dorsal region, but apparently not due to an antero-posterior projection of the same, but to a spreading of some plastic material over the transverse processes of the right side. The case was regarded as Pott's disease, and a plaster jacket fitted; this treatment was very inefficiently carried out, however, owing to the mother's carelessness. About a year and a half later the back was much better, and a light brace was prescribed, which the child is now wearing; she now stands erect, the spine is flexible and has the normal physiological curves, and there are no subjective symptoms; the deformity is no more evident, rather less so, than at first.

The case has been regarded as tubercular, but a tubercular process is very rarely primary in the transverse processes, and the deformity was not of the type seen in disease of the bodies. Also, the occurrence of the pains in the large joints, and the fact that the child has got well in two years, with a perfectly flexible spine, in spite of very inefficient treatment for Pott's disease, incline the writer to class this case as one of rheumatic spine, an uncommon but not unknown affection.

General Formulæ for Modification of Milk.

FIELDING LEWIS TAYLOR (*Pediatrics*, March 1, 1899) gives formulæ

for the modification of milk, suggested by those of Dr. Baner and Dr. Westcott. If we wish to make a given quantity, Q , of a mixture of water, cream, milk, and milk-sugar, to contain known percentages of fat, proteid, and sugar, we proceed as follows:

Desired percentage of fat, F .

Desired percentage of proteid, P .

Desired percentage of sugar, S .

Quantity of milk to be added, X .

M , represents milk; C , cream, and W , water.

a , a^1 stand for known percentage of fat in cream and milk, respectively.

b , b^1 stand for known percentage of proteid in cream and milk respectively.

c , c^1 stand for known percentage of sugar in cream and milk, respectively.

$$Q \times P = b^1 M + bC$$

$$Q \times F = a C + a^1 M$$

$$\frac{S \times Q}{100} = \frac{c^1 M}{100} + \frac{c C}{100} + X$$

hence

$$(1) M = \frac{1}{b^1} (QP - bC)$$

$$(2) C = \frac{Q (b^1 F - a^1 P)}{ab^1 - a^1 b}$$

$$(3) X = \frac{S \times Q - (c^1 M + cC)}{100}$$

$$(4) W = Q - (C + M)$$

Holt says that a whole milk containing 4 per cent. fat, 4.30 per cent. sugar, and 4 per cent. proteid will yield a 12 per cent. centrifugal cream containing 3.80 per cent. proteid and 4.20 per cent. sugar. If, according to this, we wish a 40 ounce mixture containing 2 per cent. fat, 5 per cent. sugar, and 1.25 per cent. proteid, we shall find the formulæ work out to 3.6 ounces cream, 9 + ounces milk, and 1.45 ounces milk-sugar.

If, with Baner, we take $b = b^1$ and $c = c^1$, the formulæ are readily modified accordingly.

Pharyngitis and Tonsillitis in Infants

HENRY DWIGHT CHAPIN (*Med. News*, March 4, 1899) believes that many attacks of fever and illness in infants are due to unsuspected

catarrhal inflammations of the throat. The chief reason for overlooking these conditions is the difficulty of getting a good view of the throat of a young child; and, unless the first attempt is successful, the irritation of repeated trials results in the production of mucus or the regurgitation of milk, so as to render further examination useless. The writer has, therefore, devised a tongue-depressor, of a size suitable for the youngest infant's mouth, and of such a shape as to curve over the tongue to the base of the epiglottis; careful pressure downward and forward with the instrument in the right hand, while the infant's head is steadied by the left, in a good light, will make a first, rapid, examination successful.

In infants it is usual to find the pharynx and tonsils involved together in a catarrhal inflammation. The tonsils may be enlarged and show pin-point heads of whitish exudate; the uvula is rarely infiltrated, and the lymph-glands of the neck are very seldom involved. These remarks apply only to the primary form of pharyngitis, as distinguished from the secondary form of the infective diseases. Primary pharyngitis is generally due to a disordered stomach or exposure to cold. In acid fermentation of the stomach, the mucous membrane of the pharynx is involved by continuity, and the fever keeps up even after the contents of the stomach are vomited or pass into the bowel. Also, many children are habitually too warmly clad, especially about the neck and chest, and live in overheated rooms, with the result that the slightest exposure to draughts results in throat inflammation. These of course, are predisposing causes, the direct cause being the presence or introduction of microbes. These constantly recurring attacks of pharyngitis are the most common cause of postnasal catarrh, and result in hypertrophy of the adenoid tissue at the vault of the pharynx; and in all children with this tendency to pharyngitis the nostrils should be frequently irrigated with normal salt solution or boracic-acid solution.

The Præcordial Area in Children ranging in Age from Seven to Puberty, and Its Relative Value in the Diagnosis of Heart Lesions in Cases presenting Systolic Murmurs.

WILLIAM J. BUTLER (*Pediatrics*, March 15, 1899) compares the findings of different authors as to the præcordial area in children, and gives his own conclusions from the examination of normal children, between seven years old and puberty, in Professor Cotton's clinic. The apex beat is accepted as the left limit of the heart. The writer's findings were as follows:

Upper border—Relative dullness, erect position.—2d intercostal space in 42 per cent. of cases; 2d rib in about 5 per cent. of cases; 3d rib in 52.6 per cent. of cases; no variation observed as to the above in recumbent position.

Absolute dullness.—3d rib or 3d interspace in 20 per cent. of cases; 4th rib in 80 per cent. of cases.

Right border taken on a level with 4th interspace, erect position—relative dullness.—Sternum and 1 to 1½ fingers breadth to the right of right sternal border in 52.6 per cent. of cases; sternum in 22 per cent. of cases; no relative dullness observed in 20 per cent. of cases; recumbent position—33 per cent. of cases the relative dullness was less marked.

Absolute dullness.—Invariably on the left sternal border.

Apex—erect position.—In 5th interspace in 78 per cent. of cases; behind 5th rib in 11 per cent. of cases; in 4th interspace in 10 per cent. of cases.

Erect position, 5th interspace.—Inside mammillary line in 27 per cent.; inside and extending to or into the mammillary line in 47 per cent.; inside and outside the mammillary line in 26 per cent. of cases.

Those found behind fifth rib or in fourth interspace in erect position were usually inside or in the mammillary line.

In 21 per cent. of the cases the apex in the recumbent position withdrew itself behind fifth rib or into fourth interspace.

Auscultation.—Thirty-one per cent. of cases pulmonary second tone louder than aortic second.

Five per cent. of cases aortic second tone louder than pulmonic second.

Five per cent. of cases both louder than usually found

Accidental systolic (or so-called hæmic) murmurs heard in 31.6 per cent. of cases, 83 per cent. of these heard loudest over the base.

Seventeen per cent. loudest over the apex.

Sahli says that we may diagnose the murmurs as accidental when all other signs of cardiac disease are lacking. It is evidently easy to err in the diagnosis of heart lesions in children because their heart area, especially the position of the apex, varies so considerably, while fairly constant in the adult; because the basic sounds, especially the second pulmonic, are often loud; and because accidental murmurs occur so frequently. Chorea, for instance, while it may be associated with a genuine heart lesion, may be complicated by nothing more than one of these accidental murmurs, particularly since choreic children are so frequently anæmic. Mitral insufficiency is the lesion most fre-

quently diagnosticated in these cases; but probably often wrongly, from our tendency to lay too much stress on the cardiac area in children and from the frequent occurrence in them of accidental murmurs, which, being so rarely diastolic, seldom lead to a similarly wrong diagnosis of other valvular lesions. Relative dullness in children must be considered especially unreliable.

Some New Points on Infant-Feeding.

W. G. A. BONWILL (*Jour. of the Amer. Med. Assoc.*, March 18, 1899) has observed that babies do no sucking in taking the ordinary long rubber nipple, but simply get it beneath the tongue and squeeze the milk out without effort; so that not only the milk is drawn too rapidly, but the nipple collapses readily, and the baby pulls it, thereby making the hole still larger. No artificial nipple seems to take into consideration the saliva as a factor in feeding. The writer, therefore, devised the following: He placed a secondary nipple inside the neck of the bottle with its closed end towards the milk and its open end resting on a flange on the rim of the bottle's neck. A hole of the proper size was then made in the secondary nipple, the flow being regulated by this alone. Over this secondary nipple was drawn an outer nipple, the open end of the former going well up into the latter. Next the outer nipple was shortened till it was the length of a mother's nipple. The result of all this was (the writer tried the contrivance at its various stages himself) that the buccinator muscles had to be exerted to produce suction of air from the mouth, thus causing an influx of saliva; collapse of the nipple was impossible, and the flow of milk was perfectly controlled. Without the necessity for sucking, obviated by the usual nipple, the buccinators do not act and the saliva is not exuded. The baby took twenty minutes in sucking four ounces of milk through this nipple. The question has been raised whether young babies have saliva; it appears likely, on reference to bibs and nurses, but whatever the case, the process of obtaining milk through such a nipple as the one described closely simulates the natural method; the writer believes that babies should work for their living. The author has used this nipple in the case of a child of four months, which had done ill under every method of artificial feeding; since using the nipple the baby has been fed on modified milk: whether the latter was employed before is not stated, but, at all events, the child has steadily gained and is perfectly healthy.

Wheat Jelly in Infant-Feeding.

L. DUNCAN BULKELEY (*St. Paul Med. Jour.*, April, 1899) recommends as an infant-food wheat jelly made in the following manner, but only in those cases where the infant cannot be made to thrive upon properly prepared cow's milk. It is necessary that the process be accurately carried out. A teacupful of ordinary wheaten grits or crushed wheat is put, with a pint of cold water, in a china receptacle in a double milk-boiler. It is allowed to cook slowly for two hours, then set aside for all night, when it becomes jellified. Enough water is then added to make it quite thin, and it is cooked again slowly for two hours, then rubbed through a fine sieve. The resulting gelatinous mass represents all the nutritive properties of the wheat, the phosphates as well as the starchy and glutinous portions; it is readily miscible with water or milk, and passes easily through a feeding-bottle. It should be prepared fresh every day. The method of use and quantity will vary with the individual case; for very young infants the writer adds a teaspoonful to each feeding; for older ones as much as a tablespoonful. This plan of preparing wheat for infant-feeding differs from any yet proposed; moreover, the long soaking results in a partial digestion of the mass. The same jelly, diluted, may be mixed with the milk like barley-water.

Note on the Treatment of Pertussis.

J. MADISON TAYLOR (*Pediatrics*, April 1, 1899) believes that measures directed to local cleansing of the upper-air tract are powerful in limiting the progress and severity of pertussis. As a local, as well as a systemic remedy, no one agent has accomplished so much in the writer's hands as acidulated solutions of quinine. Recently, however, attention has been directed to the employment of vaccination as a remedial measure in cases not already vaccinated. A number of observers from time to time have noted its influence; one writer reports nine out of eleven cases, in which, in about fourteen days, so soon as the inoculation was fully accomplished, the cough was modified to a slight bronchial irritation, which quickly passed away. Injections of serum from animals undergoing the process of vaccination are also successful. Inhalations of oxygen saturated with such drugs as bromoform, bromide of camphor, and cherry-laurel water do well. To relieve and check the paroxysm we may use a few drops of the following mixture upon a handkerchief held to the child's nose:

Amyl nitrite ʒss.

Chloroform ʒiij.

Ether ʒv.

ITEMS OF INTEREST.

ANNOUNCEMENT.

CONGRÈS PÉRIODIQUE INTERNATIONAL DE GYNÉCOLOGIE ET D'OBSTÉTRIQUE.

3^e Section—Amsterdam—Aout 1899.

SECRÉTARIAT, Sarphatistraat 11.
Amsterdam, September, 1898.

DEAR SIR:

We have the honor of soliciting your presence at the 3rd International Congress for Gynæcology and Obstetrics to take place at Amsterdam from the 8th to the 12th of August, 1899, under the patronage of the Minister of the Interior. The leading questions for discussion will be the following: 1st. The surgical treatment of fibro-myoma. 2nd. The relative value of antiseptics and improved technic for the actual results in Gynæcological Surgery. 3rd. The influence of posture on the form and dimensions of the pelvis. 4th. The indication for Cæsarean section compared to that for symphysiotomy, craniotomy, and premature induction of labor. We have succeeded in obtaining the valuable concurrence as reporters of MM. Doyen, Howard Kelly, and Schauta, who will treat the first question; MM. Bumm, Richelot, and Lawson Tait the second; MM. Bonnaire, Pinzani, and Walcher the third, and MM. Leopold, Pinard, Pestalozza, and Fancourt Barnes the fourth. We propose sending the reports, with their translations, in the official languages, to all the members, a month before the opening of the Congress. As regards private communications, preference will be given to those bearing upon the above-mentioned leading questions. Time will also be allowed sufficient for any demonstrations kindly afforded by the members. The official languages are: English, French, German and Italian. We venture to urge our request that you will honor the Congress with your presence, and, by communicating your experience, insure scientific results as satisfactory as those obtained by the previous Congresses of Brussels and Geneva. The Committee: H. Treub, President; J. Veit, Vice-President; G. C. Nijhoff, J. P. Barnouw, Treasurer; M. A. Mendes de Leon, Secretary.

Subscription Form.—I, residing at, hereby declare my adherence to the 3rd Session of the periodical International Congress for Gynæcology and Obstetrics, to be held at Amsterdam, on August 8, 1899, and agree to pay the sum of *One Guinea* for my share of the contribution. (Signature.)

I,, founder (membre fondateur) of the International Congress for Gynæcology and Obstetrics, hereby state my intention to be present at the next Congress, which will take place at Amsterdam, August 8, 1899. (Signature.) Founders (membres fondateurs) are those who, having paid the sum of 300 francs, are thereby exempt from all further contribution to future congresses.

Please address all communications to

J. D. EMMET, M.D.,
Secretary for America.

91 Madison avenue, New York, N. Y.

PROGRAMME OF THE FIRST MEETING OF RECTAL SPECIALISTS, AT
COLUMBUS, O., JUNE 6-9, 1899.

"The Importance of Giving Rectal Diseases Special Study," Jos. M. Mathews, Louisville; "Pruritus Ani," Jas. P. Tuttle, New York City; "Surgical Treatment of Non-Malignant Stricture of the Rectum," Joseph B. Bacon, Chicago; "A Modification of Whitehead's Operation for Hemorrhoids," Samuel T. Earle, Jr., Baltimore; "The Proctoscope as a Factor in the Diagnosis and Treatment of Simple Ulceration of the Rectum," Leon Straus, St. Louis; "A Consideration of the Various Forms of Ulceration of the Rectum," Lewis H. Adler, Jr., Philadelphia; "Rectal Carcinoma—Excision and Subsequent Colotomy," B. Merrill Ricketts, Cincinnati; "The Limitations of the Kraske Operation," Charles C. Allison, Omaha; "The Act of Defecation," Thomas Charles Martin, Cleveland; "Constipation Considered from the Standpoint of the Proctologist," A. Bennett Cooke, Nashville; "Paper and Exhibition of New Instruments," S. G. Gant, Kansas City; "Rectal Adenomata," William M. Beach, Pittsburgh.

RECTAL SPECIALISTS.

At the time of the meeting of the American Medical Association at Columbus, June 6-9, there will be a meeting of the medical men engaged in the practice of Proctology, for the purpose of effecting a permanent society for the study of their specialty. Physicians interested in the project are requested to address Dr. Wm. M. Beach, 515 Penn avenue, Pittsburgh, Pa.

AMERICAN GYNÆCOLOGICAL SOCIETY.

Meeting in Philadelphia, Pa., May 25, 1899. Preliminary program, 1899.

Applications for Place upon 1899 Programme.—Dr. A. Laphorn Smith, "Vaginal Cœliotomy"; Dr. Hunter Robb, "Sixty-five Consecutive Abdominal Sections without a Death; with Clinical and Pathological Reports"; Dr. Henry T. Byford, "Remote Results of Shortening the Round Ligaments by Vaginal Section"; Dr. H. N. Vineberg, "Surgical Treatment of Acute Puerperal Sepsis, with Special Reference to Hysterectomy"; Dr. Eugene Boise, title not given; Dr. Robert L. Dickinson, "Is a Sloughing Process at the Child's Navel Consistent with Asepsis in Childbed?"; Dr. J. M. Baldy, "Report of a Case of Kraurosis Vulvæ"; Dr. S. C. Gordon, "Conservative Gynæcology"; Dr. Charles P. Noble, "Early Abdominal Sections for Fibroid Tumors, with a Tabular List of All Operations Prior to 1865"; Dr. Beverly McMonagle, "Management of Surgical Injuries to the Ureters"; Dr. W. R. Pryor, "Report of Committee on Anti-Streptococci Serum," etc.; Dr. Edward Reynolds, "Tuberculosis of the Kidney as an Indication for Nephrectomy"; Dr. B. Bernard Browne, "Inversion of the Uterus"; Dr. J. Wesley Bovee, "Abdominal Operations for Conditions Complicating Typhoid Fever"; Dr. T. J. Watkins, "The Treatment of Broad-Ligament Cysts by Vaginal Incision and Drainage"; Dr. Reuben Peterson, "Etiology of Non-Malignant Rectal Stricture in Women"; Dr. J. Whitridge Williams, "A Case of Spondylolisthesis, with Demonstration of the Pelvis"; Dr. Clement Cleveland, "Experience in the Use of Tuffier's Angiotribe in Intra-Pelvic Surgery"; Dr. I. S. Stone, "The Use of Compression Forceps in Salpingo-öophorectomy and Hysterectomy, with Remarks upon the Angiotribe"; Dr. J. M. Baldy, Discussion—"The Scope and Limitations of Myomectomy in Solid Tumors of the Uterus"; Dr. Wm. E. Moseley, "Report of Committee on Use of Mammary and Thyroid Extracts"; Dr. Robert A. Murray, "The Abuse of the Curette in Puerperal Fever"; Dr. Fernand Henrotin, "Surgery of the Ovaries"; Dr. Egbert H. Grandin, "Clinical Data Bearing upon Tubercular Peritonitis"; Dr. Henry C. Coe, "Thrombosis following Cœliotomy in Aseptic Cases"; Dr. William H. Wathen, "Surgery of the Ovaries and Tubes per Vaginal Incision"; Dr. William R. Pryor, "Use of Iodoform Gauze in Pelvic Disease of Women."

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JUNE, 1899.

PERINÆAL LACERATION AND ITS IMMEDIATE
REPAIR.*

BY FRANK C. HAMMOND, M.D., PHILADELPHIA,

Instructor in Gynæcology, Jefferson Medical College; Assistant in the Gynæcological Dispensary
Jefferson Hospital.

Laceration of the perinæum is an accident of parturition which occurs in the practice of the best obstetricians, and cannot always be prevented. When we study the anatomical structure of the pelvic floor, and recall the enormous distention to which it is subjected during the second stage of labor, we can but wonder why serious lacerations of its tissues do not more frequently occur.

It ought not to be necessary at this day to urge the importance of immediate repair of perinæal lacerations, but, it is nevertheless a fact that cases are continuously coming under the care of the surgeon in which such repair has been neglected, the women suffering for years. There is no justification for such cruel neglect.

The operation is simple, the open wounds through which septic poisoning is liable to occur are thus measurably closed, preventing rectocele, prolapsus uteri, and the well-known train of attending sequences.

The principal support which maintains the pelvic viscera in their normal relation is the pelvic floor, the most important structures in which are the levator ani muscles, and the pelvic fascia. The support of the pelvic viscera, from below, depends upon the integrity of these structures, and when they cease to perform their normal functions, either from atrophy, or laceration of their tissues, downward displacement of the pelvic viscera is favored.

This point cannot be too strongly insisted upon, nor can it be made too clear that these are the structures of importance in giving support

* Read before the Philadelphia Obstetrical Society, April 6, 1899.

to the rectum, vagina, bladder, and uterus, and not the perinæal body.

The practitioner at large entertains the idea that the perinæal body is the supporting factor, discounting entirely the muscular support, and in repairing the laceration, oblivious of this muscular support, introduces the sutures in such a manner that, though the lacerated tissues are approximated, no attempt is made to bring in apposition the torn edges of the muscles, thus loosing the connecting link in the restoration of the pelvic floor.

There are numerous "wrinkles" for saving the perinæum from laceration, many of them theoretically beautiful and promising.

Plausible devices for "supporting the perinæum" are largely matters of individual fancy.

The term "support of the perinæum" is an unfortunate one, because it conveys a wrong impression as to the kind of assistance rendered.

Dilatation, instead of support, of the perinæum is what we should obtain.

Tristrail (*British Medical Journal*, 1875) presented to the London Obstetrical Society a very interesting paper on "Dilatation of the Perinæum."

We want the soft parts of the outlet of the pelvis to dilate, so as to allow of the passage of the child's head, without its weakest part rupturing. Trestrail, in his paper, claims that by the pressure of the perinæum between the hand and the child's head, the more the support given, the more squeezed, thinned out, and lengthened the perinæum becomes. One can hardly imagine anything so likely to favor rupture as this pressure on both sides. True, the support may delay the advancing head, but this pressure against the perinæum arouses the uterus, and causes more violent contractions, so that delay being the object sought, direct pressure upon the child's head is infinitely preferable and safer in every way.

In case of rupture of the perinæum, what has occurred? Either the outlet was abnormally unyielding, or there was not sufficient time for it to expand, so that the weakest part gave way.

The obvious way of minimizing this unfortunate result is to allow the perinæum to slowly dilate, either by manual manipulation, or holding back a rapidly progressing head, until the perineum is sufficiently dilated, then permitting the head to sweep over.

Trestrail advocates gradual manual dilatation of the perinæum, so that by the time the foetal head reaches the pelvic floor there is little

or no resistance offered. Dr. Malcolm Douglass, a close observer, has often noticed that, when this method of dilatation was employed, the forceps application, when occasion necessitated their usage, was more easily accomplished.

Among a few predisposing factors to laceration, besides a rigid, unyielding perinæum, may be mentioned: (a) A very straight sacrum; (b) the direction of the vulva opening; (c) diminution in the size of the vulva.

The mechanism of labor is a causative factor: (a) In vertex presentation, rotation of the occiput into the hollow of the sacrum; (b) in face presentation, the largest diameter of the foetal head, the occipito-mental must first pass through the outlet; (c) incomplete flexion.

The physiological character of the labor is an important element: (a) A rapid labor; (b) tedious labor, the head remaining for some time at the lower strait.

Anæsthetic agents are of value in preventing this accident. This procedure may be employed in: (a) Rigidity of the perinæum, due to excessive irritability of the muscular fibers; (b) violent and rapid uterine contractions, driving the head through the vulval opening before the perinæum has sufficiently expanded; (c) tedious labors.

After the delivery of the placenta, and the uterus is well contracted, a thorough examination should be made to ascertain the nature and extent of the lacerations, if present. Under no consideration should a casual external examination suffice, for oftentimes a deep internal tear may be present, and the skin perinæum remain intact. The vulva should be separated and a careful inspection of the interior of the vagina be made. A good light is a necessity.

A simple tear through the mucous membrane may be treated with dusting powders.

When the laceration extends through muscular structures, sutures should always be inserted. Chromicized catgut is preferable for the inside sutures, and silk or silkworm-gut for the outside.

If an anæsthetic is required, the preference should be given to ethyl bromide, then chloroform, or a mixture of equal parts chloroform and ether.

We would not think for an instant of allowing a complete laceration of the perinæum to go unattended, neither should we allow the incomplete variety.

While it is oftentimes best to repair the laceration soon after delivery, still, if necessary, on account of exhaustion of the patient, etc., at least twelve hours may elapse and good union be obtained.

TUBERCULOSIS OF THE MESENTERIC GLANDS.*

BY REUBEN PETERSON, M.D., CHICAGO,

Professor of Gynæcology, Chicago Post-Graduate Medical School ; Surgeon, Chicago Charity Hospital.

Tuberculosis of the mesenteric lymph-nodes as a primary disease is but seldom recognized. This is not strange when we consider that there are no pathognomonic symptoms of the affection, and that the glands in their early stages are not palpable. From an experience with four cases of tubercular-mesenteric disease I am convinced that the glandular enlargement is usually accompanied by a certain amount of abdominal pain, which, while not pathognomonic, may, when long continued in young subjects, lead us to suspect the existence of the disease.

It is for the purpose of adding to the sum total of our knowledge of the subject that I am led to report the following case:

L. M., colored, aged nine, school-girl. Referred by Dr. J. L. Van Valkenburg. There was a doubtful family history of tuberculosis, the father having died of a pulmonary trouble, brought on by exposure, and the mother at the present time suffering from some lung trouble. The patient never has been strong, but was not noticeably different from other children until some three years ago, when, during a portion of each day she complained of abdominal pain. She would leave her play and come to her mother complaining of "stomache-ache." This pain has been increasing in severity. She had had a protruding navel for some years, but this had not been considered of any importance, as the pain was situated more in the epigastric region. The appetite was excellent. There had never been any diarrhœa.

The patient was admitted to the Charity Hospital January 5, 1899. I only had a few minutes in which to examine her prior to operation at the Post-Graduate Hospital on the following day.

There was a slight umbilical hernia with impulse on coughing and an opening in the fascia admitting the forefinger. Otherwise the abdomen seemed normal to inspection, palpation, and percussion, excepting a somewhat localized tenderness just to the right and two or three inches above the umbilicus.

* Read before the Chicago Gynecological Society, March 17, 1899.

Satisfied that the hernia could not explain the abdominal pain, I determined to operate for a radical cure and at the same time seize the opportunity of thoroughly exploring the abdominal cavity.

An elliptical incision, three inches in length, was made so as to include the umbilicus. The latter was removed, and the edges of the fascia freshened. A thorough exploration of the abdominal cavity showed no abnormality, except enlarged mesenteric glands. These glands were numerous and varied in size from a pea to that of a bean. The large glands were situated more toward the pelvic cavity. The peritonæum was smooth and apparently perfectly normal. The intestines were not injected. Six of the enlarged glands were removed for microscopic examination, and the incision in the mesentery closed with fine catgut. Fine catgut was used in closing the peritonæum, while No. 3 chromicized-formal catgut was used for the fascia and silkworm-gut for the skin.

The microscopic examination of the removed glands, as made by Dr. Zeit, of the Klebs Pathological Laboratory, is exceedingly interesting.

REPORT BY DR. ZEIT.

Tuberculous Mesenteric Gland.—A small mesenteric gland was received for examination which upon section showed whitish nodules. Direct cover-glass smear preparations from the freshly cut surface of the gland showed about thirty tubercle bacilli.

Histologically.—The lymphadenoid tissue is scanty and replaced by areas of caseous necrosis, epithelial-cell proliferation, and many miliary tubercles, showing the characteristic structure of giant-cells surrounded by epithelial cells, and an outer mantle of small round-cell infiltration. Most of the giant-cells have necrotic centers and in nearly all of them tubercle bacilli can be demonstrated.

Two years ago I reported before this Society the case of a young girl, eleven years of age, where an exploratory laparotomy revealed enlarged mesenteric glands as the only lesions explanatory of her continual abdominal pain. No direct smears were made of the removed glands, and no tubercle bacilli were found in the sections, but the histological appearance left no doubt as to the tubercular nature of the growths. While admitting that the outcome of the case was problematical, I ventured to express a hope that, as in the case of tubercular peritonitis, a favorable issue might result from the laparotomy. Within two weeks I have heard, through her family physician, that the patient is in the best of health and presents no evidences of constitutional or

local disease. Less than three weeks after the operation in the case just mentioned, I operated upon her sister, who presented similar symptoms of continued abdominal pain and tenderness; enlarged mesenteric glands were found, and microscopic examination of a number removed showed the tubercle bacilli present. This patient is also in excellent health to-day.

In a paper presented to the American Gynæcological Society in May, 1897, I mention a third case of enlarged tubercular mesenteric glands, operated on in 1891 for the same continued abdominal pains. Although an unfavorable prognosis was made at the time of operation, the patient is alive and well at the present time.

In all four of the cases mentioned there was abdominal pain with localized tenderness severe enough to lead to an exploratory abdominal incision. The time since the operation in the last case is too short to draw any deductions. In the three other cases the pain and other symptoms have ceased, and they are in good health. While this does not prove that the glands are now free from tubercular deposits, or that the opening of the abdomen was a factor in the amelioration of the symptoms, there are good reasons for believing that both may be true. We are far from being able to explain the action of the peritonæum upon growths involving the membrane itself, as tuberculosis of the peritonæum, or where the neoplasms are deeper-seated and are merely covered by the peritonæum. Not a few cases are on record where growths undoubtedly malignant in character have been found to have markedly decreased upon examination at a second laparotomy. White, in an article, entitled "The Supposed Curative Effect of Operations *Per Se*," records many curious cases where abdominal tumors have diminished after the mere opening of the peritonæal cavity. It cannot be denied the mere cutting into the peritonæal cavity produces physiological changes different from those met with elsewhere in the economy. The exact nature of these changes has never been satisfactorily explained.

Of course, it cannot be denied that the cases described might have recovered without an abdominal section. This argument was at first used in cases of tubercular peritonitis, where healed tubercular peritonæal lesions were found subsequent to operative procedures. Cases of calcareous tubercular mesenteric glands have not infrequently been found post-mortem. Oftentimes these were the sole evidences of tuberculosis present. As an example of spontaneous cure of tubercular deposits in the mesenteric glands I will cite the following case, the notes of which were furnished me yesterday by my friend, Dr. A. E. Halstead.

Miss B., aged 20, one sister died of tuberculosis. At the age of fifteen some glands thought to be tubercular were removed from the neck. A year and a half later Dr. Halstead removed a cervical gland which microscopic examination showed to be tubercular. Six months later, in May, 1896, the patient had an attack of appendicitis, calling for the opening of an abscess located in the ileo-cæcal region. Previous to this attack the patient had been a sufferer from abdominal pain and bloating. A portion of the abscess-wall was excised, and shown by microscopic examination to be tubercular. Emaciation, night-sweats and elevation of temperature followed. There was no ascites, however. Two months after the operation she weighed but 67 pounds. Under tonic treatment she was apparently restored to health, and her weight more than doubled. One and a half years ago she developed a small hernia at the site of the operation, which was radically cured by Dr. Halstead February 10, 1898. By inspection the parietal and visceral peritonæum was seen to be normal. After pulling out a loop of intestine the mesentery was found studded with hard calcareous masses, varying in size from a split pea to that of a small marble. No enlarged glands were present, which did not exhibit the same changes. A few similar calcareous masses were found retroperitonæally. There was no fluid in the peritonæal cavity.

The presumption in this case is that the mesenteric glands were affected at the time of the removal of the tubercular cervical glands. The calcareous changes probably were coincident with the progressive gain in weight and recovery.

103 State street.

THREE INTERESTING CASES.

I.—URETHRAL FISTULA FOLLOWING CURETTEMENT OF A CANCEROUS UTERUS; CÆLIOTOMY AND CURE OF FISTULA.

*II.—PRIMARY AND SECONDARY CÆLIOTOMY FOR ANGULATION AT THE SIGMOID FLEXURE OF THE COLON; FÆCAL VOMITING FOLLOWING THE SECOND OPERATION, WITH RECOVERY AND CURE.**

III.—VARICOCELE OF RIGHT LATERAL WALL OF VAGINA.

BY ANDREW J. DOWNES, A.M., M.D., PHILADELPHIA,

Gynæcologist to St. Mary's Hospital.

Mrs. R., aged 44, consulted me early in February, 1898. Her pertinent history is briefly as follows: No cancer in family. Menopause at forty years. With its appearance she seemed to become sickly, yet without any evident indication of uterine disease. About six weeks before noticed for the first a whitish vaginal discharge, which soon became fœtid. On examination I found a necrotic, mostly absorbed cervix, the necrotic process tunnelling deeply the uterus, which was fixed and surrounded beyond cervix by infiltrate. During the last three weeks there had been intense pain in the left kidney. She had had no hæmorrhage, but bleed on examination. She was pale, feeble, and beyond a radical extirpation. I advised curettement and cauterization, and operated on her February 17, '98, at St. Mary's Hospital. The uterus was curetted very thoroughly until healthy tissue was reached, which left but little remaining uterine tissue. The cavity was packed with gauze, saturated with 50 per cent. chloride of zinc solution. The vagina was protected by saturated sol. of soda bicarb. in gauze.

On the tenth day a large uterine slough separated and discharged. With the discharge of this slough the pain in the left kidney, which had been present since three weeks before operation, now suddenly ceased. With the cessation of the pain urine was noticed in the vaginal discharges. From this time as much urine was passed per vaginam as

* Read before the Philadelphia Obstetrical Society, April 6, 1899.

from the bladder. A cystoscopic examination revealed no urine entering bladder from left ureter. Vaginal examination revealed urine emerging from the cavity (in the uterus) left after curettement. While in the hospital the bladder was filled on more than one occasion with methylene-blue solution and the vagina packed with clean cotton. In two hours it was always removed without the slightest blue stain. The patient was directed to use a weak solution of permanganate of K. per vaginam from a 3-quart fountain syringe. On a few occasions she found the solution had entered the bladder, as evidenced by the color of the urine subsequently passed. On two occasions her vaginal douches caused extreme pain in the left kidney. The following facts are, therefore, established: That no urine emptied into bladder from left ureter, but emptied into the remains of uterine cavity from the rent in ureter. That no urine escaped from the bladder out through the bladder end of the left ureter. That from the rent in ureter fluid could be passed into the bladder by hydrostatic pressure per vaginam, showing the ureter open into bladder. A uretero-uterine fistula is thus established. While the general condition of the patient, who had gone home, had been remarkably improved by the palliative operation of February 17th, as evidenced by return to strength, freedom from a marked lessening of pain in left kidney, and restoration of appetite, her condition was distressful to herself and friends, owing to the urinary fistula. I advised her to submit to an attempt to relieve her condition. She again entered St. Mary's Hospital, and on June 24, '98, I opened her abdomen. The pelvis was found singularly free from infiltration. A few cancerous nodules only were found, one fairly large one, where the left ureter entered the true pelvis.

Of the uterus there was found only a small, apparently healthy, fundus, not larger than normal, showing no evidence whatever of cancer. At a point that would have marked the level of the internal os there was inflammatory adhesion to the bladder. The angle made by lines representing the anterior surface of the uterus and the posterior surface of the bladder was quite acute. The left ureter was easily traced from above the pelvis down through it to where it entered the angle of union of bladder and uterus, where it was lost in the adhesions. I now examined the left kidney, and found it quite large, considerably larger than the right kidney. I was tempted to remove it, foreseeing no other possibility of relieving the urinary condition. The patient was, however, too low. I now carefully traced the ureter, which was quite dilated, down to where it was lost in the flexure between bladder and uterus, the adhesions uniting, which were cautiously freed. The

anterior surface of the ureter was thus exposed, so that it could be seen continuing on to the bladder. No attempt was made to completely free the ureter or to find the opening. It was, however, by the freeing of the adhesions binding it down, straightened out considerably. The nozzle of a syringe was inserted deep in vagina to where urine emptied into vagina, and sterile blue solution allowed to flow from the elevated irrigating flask. The bladder was seen to rapidly fill. The ureter was seen to slightly distend while the flow continued. The abdomen was closed after emptying the bladder with a catheter. Within three days all urine was passed by the bladder. This result was more than I anticipated, nor can I claim that when I freed the adhesions around ureter and straightened it out, that I did so with the certain expectation of closing the rent in it. In studying the result obtained there is but one explanation. The ureter was angulated between the uterus and bladder, and had sloughed at the point of flexure, and emptied its urine from practically a circular rent into the remains of the uterine cavity. By straightening out the ureter this rent on its under or posterior surface was converted into longitudinal slit, which rapidly healed and remained so. The patient is still living, over a year since the palliative operation, and eight months since restoring the normal function of the ureter. She will soon, however, yield to recurrence.

This is the first case I can find record of where a ureteral fistula followed a palliative curettement of a cancerous uterus. It is, I am sure, the only one on record where the procedure adopted was ever carried out.

Primary and Secondary Cæliotomy for Angulation at the Sigmoid Flexure of the Colon; Faecal Vomiting following the Second Operation, with Recovery and Cure.

T. H., aged 33 years, was admitted to St. Mary's Hospital April 17, 1898. Had a child when twenty-three years old. Present history: Complains of constant pain in the left ovarian region. For years has been constipated. Her pain increases with the duration of the constipation, and is always very severe when the bowels move. Examination reveals a marked retroflexed and adherent uterus, with extreme sensitiveness of the left ovarian region.

Two days after admission the patient was suddenly taken with very severe pain in the left lower abdomen, and went into deep shock. On reviving she complained of very intense pain, and soon began to vomit. Salines were ejected and enemata failed to move the bowels or relieve

the pain. Vomiting continued, and she was going into shock again when high enemata of soapsuds, glycerine, and turpentine were tried, this time successfully, and the bowels opened. With the emptying of the lower colon of a large quantity of faecal matter, the distention disappeared, and with it the abdominal pain. She gave a history of only one similar attack, not so severe, however, while in Germany some few years before.

I decided to operate, and intended to first dilate the uterus. As the patient was just under ether without yet having taken much, she was placed in the dorsal position and a tenaculum forceps applied to the cervix. While traction was made on the uterus to bring it down the patient stopped breathing and apparently went into collapse. The residents who had taken care of her four days before, when she had gone into shock, informed me that her condition now closely resembled the former attack. I removed the forceps from uterus, stopped ether, saw that she was coming to, and was about to return her to the ward, when I decided to open her abdomen. As little ether as possible was given and the abdomen rapidly opened. The uterus was found retroverted in the hollow of the sacrum and moderately bound there by adhesions. The left ovary was small and diseased, and the tube enlarged and adherent. A number of adhesions bound the ovary and tube together and connected them by tort-lines to the sigmoid flexure of the colon, which was kinked and angled, and gave evidence that the bowel had obstructed at this point. One band was quite firm and old. These bands were severed, releasing the colon. It was noticed by all present that the patient's condition improved as soon as the adhesions were severed and traction on the colon relieved.

The left tube and ovary were exsected, the uterus freed, elevated, and fixed to the anterior abdominal wall. The abdomen was closed, and the patient rapidly recovered and left the hospital in four weeks.

Her condition was very much improved, yet she was not well. From a too liberal or indiscreet diet she suffered from tympany and constipation. She still had occasionally severe pain and tympany in left lower abdomen. A doctor who saw her occasionally during the summer thought her hysterical. I had often entertained the thought myself. However, I decided in December, '98, that she had bowel adhesions, and decided to open her abdomen again. She entered the hospital January 3, '99, and I operated on her January 9, '99. The abdomen was carefully opened. Bowel was found adherent to nearly the whole length of the old incision. On freeing bowel and omentum from line of old incision, the bowel was found matted in many places.

The bowel was freed and the pelvis now examined. A beautiful adhesion, an inch long, suspending the uterus, was found, as the result of the ventro-fixation, or rather suspension, as this proved to be, of the former operation. The right ovary was found diseased and removed. On examining the left side of the pelvis a broad, white, fibrous band was found, running from the left side of the uterus to the colon, making traction on colon just below where kink had been found at former operation, and practically maintaining, although less acutely, the same kink or angle. This band was severed and the abdomen closed. The post-operative history is remarkable only from the occurrence of fæcal vomiting on two occasions, the first forty-four hours, the second fifty-six hours after operation. The vomit was distinctly and positively fæcal and each time in quantity over four ounces. The bowels had not yet moved, nor had any flatus escaped from the rectum. The abdomen was much distended and painful. The second vomit occurred after a high enema. During the day a few enemata had been given. Following the last vomit a successful high enema of soapsuds, glycerine, and turpentine, introduced high in the colon by means of a rectal tube, brought flatus and a slight movement. The case after this convalesced nicely. The patient is cured, is not constipated, does not suffer from tympany, and realizes herself that she is altogether different than at any time in quite a few years.

A condition which might, with some reason, have been ascribed as partly, at least, due to a hysterical element, was cured by finding a positive lesion and mechanical intestinal defect. The origin dates back probably to a post-puerperal condition ending in adhesions, making abnormal traction on the colon at the sigmoid flexure, causing angulation, which at times was enhanced by fæcal accumulation and fermentation above. Just when the fundus uteri dropped into the hollow of the sacrum, and whether the acute angulation started then or not is a pertinent question.

A very interesting point to me in this case was the occurrence of collapse (the first operation) when just barely under ether, and when the uterus was subjected to traction from below. After opening the abdomen and freeing adhesions the patient's pulse and respirations, even under ether, improved and continued very good. She left the operating-table in exceedingly good condition, whereas under traction she seemed about to die, so much so that I was very timid about subjecting her to coeliotomy.

At this first operation I thought I had severed sufficiently the bands running to the colon, and was, therefore, much surprised to find a firm,

fibrous band in the second operation. It is possible that with the suspension made in the first operation and the absorption of inflammatory material near or within the left broad ligament, a band below where I had severed had been apparently elevated.

The occurrence of fæcal vomiting on two occasions after the second operation is sufficiently rare to place on record. It was a fortunate outcome in a case with very many freshly separated bowel surfaces, which during the first two days nearly caused obstruction by reunion or kinking.

III.—Varicocele of the Right Lateral Wall of the Vagina.

This case is reported only for its rarity. The patient, Mrs. R., aged 50 years, was admitted to St. Mary's Hospital in August, '98. She had been having genital hæmorrhage, irregular as to time, and but little influenced by treatment. She was supposed to give evidence of genital cancer. On admittance to hospital patient was suffering from free vaginal hæmorrhage. When I examined her the following day the hæmorrhage had ceased. Her history shows a regular monthly period up to the present time, but at irregular intervals. Irrespective of her menstrual periods she has hæmorrhages. On examination I found no evidence of uterine hæmorrhage. Her perinæum was torn sufficiently to have given rise to a pronounced rectocele on straining. The whole right lateral wall of the vagina had a turgid, bluish hue, and gave perceptible evidence of a varicose condition of the veins. The blue hue was limited above at the upper limits of right wall, but below merged into the floor of the vagina, forming the rectocele. On straining the rectocele first formed, and as the floor of the vagina rolled out to form it the right lateral turgid mass pushed forward into the vaginal canal and rested upon the crest of the retrocele. At the most prominent part of this lateral mass was a point from which the irregular hæmorrhages had occurred. My photograph, while not as well taken as it might be, yet shows distinctly the rectocele and the larger mass projecting into the vaginal canal. Under straining and work the venous pressure was too great in this lateral mass and hæmorrhages occurred.

She was operated on August 26, '98. The lateral mass was first attended to by making traction on most of mass, applying pressure to base of tumor, removing all above pressure forceps, and carrying a silkworm-gut suture around the base and below the forceps. A purse-string suture, which, on being tied, nearly controlled all hæmorrhage.

A few extra sutures controled all hæmorrhage. The perinæum was then repaired by the Emmet operation.

The patient, recently seen, has a very good perinæum, and no evidence of undue venous circulation in the right wall, which has now the same pink hue as the floor of the vagina.

I am fully aware that a varicose condition of the vagina is more or



Varicocele of Lateral Wall of the Vagina.

less common in women with very much relaxed perinæums, but so distinct and localized a condition as the one here depicted, I am sure, is exceedingly rare, and I regret very much that I had not taken a better photograph before operating on the patient. The condition could be expressed by no term other than varicocele.

THE CLINICAL SIGNIFICANCE OF PEPTONURIA IN
PELVIC ABSCESS; WITH REPORT OF ILLUSTRATIVE CASES.*

BY W. FRANK HAEHNLEN, M.D.,

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Obstetrician to Samaritan Hospital.

The literature on the subject of peptonuria is exceedingly scanty and confined principally to a few foreign observers, prominent among whom may be mentioned Von Jaksch, Hofmeister, Sterling, Robitschek, Pacanowski, Fischel, Maixner, Poehl, Salkowski, and Macwilliam: to some of whose names references have been made in this paper.

The chemical substances found in the urine in so-called peptonuria are, strictly speaking, albumoses, but from a clinical standpoint this is a matter of indifference, although, to be consistent, the terms *dutero-*, *proto-*, and *hemi-albumosuria* should be substituted for peptonuria.

The "Kühne" peptone has hitherto not been found in animals, except in the contents of the stomach. It is Brücke's peptone that is referred to here.

Peptonuria is found under different and varying circumstances, but according to Sterling³, is most frequently present in the urine in cases where there is an accumulation of and breaking up of leucocytes or pus-corpuscles, as in the stage of resolution of pneumonia, suppurative processes, etc. The presence of peptone in the urine under certain conditions has been satisfactorily demonstrated, but the question of its clinical significance, as a symptom, has not hitherto received the attention that the results of recent investigations would seem to warrant.

To Hofmeister,² MacWilliam,¹² and Salkowski¹¹ we are indebted for the methods by which peptone is easily detected, but to Von Jaksch¹ is chiefly due the credit of pointing out its practical diagnostic value. The recent researches of Yarrow and others tend, in the fullest manner to confirm Von Jaksch's belief as to its value as a symptom.

From our present knowledge of the subject, the causes of peptonuria would seem to be quite different from those to which the other forms of albuminuria are due, for neither nephritis, circulatory disturbances nor anæmia will bring about the presence of peptone in the urine. Its presence, according to Von Jaksch, is most frequently, although not

* Read before the Philadelphia Obstetrical Society, April 6, 1899.

invariably, associated with such processes as are characterized by the collection and subsequent destruction of leucocytes under such circumstances that the products of disintegration, including the peptone constituents of these bodies, can obtain admission into the blood current, to be subsequently eliminated by the kidneys.

It occurs in such conditions as the resolution stage of pneumonia, purulent pleuritic exudations, purulent meningitis, acute articular rheumatism, suppuration of phthisis, and suppurative processes anywhere in the body, provided that the conditions are favorable to the absorption of the peptone constituent of the pus. In short, then, it is found in nearly all states which are associated with the formation and breaking down of pus.

To the peptonuria arising in this way the term pyogenic peptonuria has been given.

Among other causes besides those already mentioned are scurvy (inorganic peptonuria), phosphorus poisoning, and tissue destruction generally. Syphilis is also known to produce peptonuria (Poehl⁸). Again, according to Maixner,⁷ in ulceration of the intestine the peptone of the food passes directly into the blood, through the ulcerated parts, and thus gives rise to peptonuria (enterogenic peptonuria). Fischel⁶ claims that peptone is a normal constituent of the urine in the puerperal state (puerperal peptonuria).

It may be seen, then, that peptonuria is due to many and varied conditions, and, therefore, it is only by a careful process of exclusion of all known causes of this condition, and the association of symptoms present in the case, that we can draw a just inference as to its clinical significance.

Peptonuria, further, is of value as indicating the progress of certain diseases. Thus, in pneumonia, it indicates that the stage of resolution has begun. Again, in pelvic tumors and pleuritic effusions, it indicates their purulent character. As a means of diagnosing between tubercular and epidemic cerebro-spinal meningitis, and multiplex hæmorrhagic encephalitis (Von Jaksch), the presence of peptone in the urine is occasionally a fact of crucial significance. It is characteristic of the second disease, occasionally in the last, and its absence in the presence of the clinical symptoms of meningitis generally implies a tubercular character. Obviously, however, peptonuria may arise accidentally in the course of tubercular meningitis, and in basing a diagnosis upon this condition, care must be taken to ascertain that it is not due to ulcerative processes in other organs, and especially to exclude implication of the lungs.

Again, in the condition which has been called "sepsis occulta," and which is commonly so difficult to recognize, peptonuria is an important symptom. By its aid it will be possible to distinguish the symptoms of septicemia from those of latent disseminated sarcoma, which present quite a similar character—high fever, rigors (Von Jaksch¹).

With what has been said in reference to peptonuria in connection with the different conditions in which it is found, it is clearly evident that the mere presence of peptone in the urine does not demonstrate the existence of suppuration going on somewhere in the body, much less in some particular part of it.

To be of any practical value, therefore, it must be studied in connection with the symptoms present in the case, in which it *then* becomes a valuable corroborative factor in the diagnosis. All the known conditions in which peptonuria is found must be carefully considered, and as many of them as possible excluded, before we can come to any just conclusion as to its clinical significance in the case.

The examination for peptone should not be confined to a single urinalysis, but at least two or three of them should be made on succeeding or alternate days, according to the urgency of the case. It may happen that peptone will be present at one examination and absent in a subsequent one. This condition is adequately explained by an inflammatory exudate of plastic lymph, which localizes, and thus prevents further absorption of the peptone constituent of the pus into the blood, hence the non-appearance of the peptone in the urine under such circumstances. In cases of peptonuria where peptone reaction is absent for a time, and then becomes again demonstrable, it is presumptive that the pus-sac has broken down and allowed the pus to again be absorbed into the circulation, or else that suppuration is going on in some other part of the body under favorable conditions for absorption. The ordinary walls of acute abscesses, such as those of the tubes, ovaries, broad ligaments, and mammary glands do not prevent absorption, and consequently it is that the pus is absorbed into the blood, and the peptone is subsequently found in the urine.

Believing the presence of peptone in pelvic abscess to be significant of suppuration, when other known causes of peptonuria can be excluded, it certainly offers another diagnostic sign, at least, of a corroborative nature, to those with which we are already familiar, but which are so often absent in obscure cases. The simple methods for its detection, and the probable light that may be thrown on a given case, ought to commend the test for it whenever practicable.

As leucocytosis is usually associated with sepsis, a blood-examination should be made in connection with the test for peptone.

It may be that further experience will extend and distribute its import, but there can be but little doubt that the clinical significance attached to pyogenic peptonuria, of which this paper treats, and of which we are best acquainted, will diminish with the progress of knowledge.

The investigations, epitomized in this paper, were confined to pelvic cases admitted to the Samaritan Hospital for operation. The urinary and blood-examinations were made by my colleague, Dr. Thomas J. Yarrow, Jr., to whom I am much indebted for his painstaking work, in connection with the cases here reported. The following cases will illustrate the importance ascribed to peptonuria in suppurative conditions of the pelvis, and its practical value in corroborating the diagnosis:

Case I.—Admitted to the hospital for operation, with supposed fibroid or ovarian cyst. Her history pointed to a recent local pelvic peritonitis. Abdomino-vaginal examination revealed marked tenderness, and a large, firm mass in the right broad ligament. She had had a chill previous to entering the hospital. Her temperature now showed a septic curve, and the pulse was slightly accelerated; complexion, dusky and suspicious of sepsis. Diagnosis—Pelvic abscess.

Urinalysis showed marked renal disease, with abnormal deficiency of urea, which occasioned the operation to be postponed a few days, with the hope of improvement in the renal excretions, and that her condition might thus be more favorable for anæsthesia and operation. The urinalyses from day to day showed constant peptone reaction, but it is interesting to note that her general condition seemed to rapidly improve. Her temperature and pulse became normal, pain and tenderness disappeared, and she felt so much better that she thought operation would not be necessary. The mass in the pelvis, however, remained the same, except that it was less sensitive to touch. In the course of a week, however, she began to complain again, her temperature assumed its septic character, and the pulse quickened. Pain and tenderness were again quite marked, and her general appearance was worse than when she entered the hospital. Operation was now promptly decided upon, in spite of the fact, that she was still passing but little urine, with a small amount of urea, still, considerably more than she had excreted previously.

The operation (abdominal section) confirmed the diagnosis of pelvic abscess, it being a large multilocular one, involving the right tube, ovary, and broad ligament. Urinalysis after the operation showed absolutely no peptone reaction. This case is particularly instructive in

that the patient seemingly was getting better, while her actual condition remained the same. No subjective symptoms were present for over a week, and the only objective ones during that period were the mass in the pelvis, and the peptone in the urine.

Case II.—Had been in the Medical Ward with typhoid fever. Was referred to the Gynæcological Ward for pain complained of in the right ovarian region. She had had a double salpingo-öophorectomy performed about a year previously. Examination under ether revealed a mass about the size of a small hen's egg in the region of the right stump, the site of her present pain. Operation (abdominal section) revealed a cyst of the right stump, with bowel and omental adhesions. A small cyst was found on the left side, but not quite so large as the right. Both cysts were removed, and the patient did well for several days, when she complained of pain to the left of the incision, had rise of temperature, and quick pulse. The urinalyses, which up to this time were negative with regard to peptone, now showed marked peptone reaction. The incision looked red and angry around several of the stitches, and these were removed to relieve tension. Pus was found to come from the stitch-holes, which were freely opened and considerable pus evacuated. Wound irrigated and drained. The urinalyses showed absence of peptone afterward.

Case III.—A patient of Dr. B. F. Hawley's was referred to me for operation. She had been suffering from intra-pelvic pressure symptoms, especially retention of urine. Abdomino-vaginal examination revealed a large mass quite filling up the pelvis. The cervix was pressed high up, back of the symphysis pubis, and the mass, which was firm, yet not hard, was apparently continuous with the cervix. Her condition being bad at the time of admission, she was not examined under ether, as is my custom where a satisfactory diagnosis cannot be made in the ordinary way. Repeated urinalyses showed marked renal disease, besides a decided peptone reaction.

Operation.—Abdominal section, revealed a large suppurating dermoid cyst of the ovary; uterus normal. In this case the constant peptone reaction was looked upon as indicative of suppuration in the tumor, but its exact nature was not determined until the time of operation.

Case IV.—Patient had septic temperature and rapid pulse, with tenderness over both ovarian regions. Examination revealed enlarged tubes on both sides, extremely tender to the touch. She was examined under ether to verify the results of the previous examination, and very large and conspicuously tortuous tubes could now be easily outlined.

Diagnosis—Double pyosalpinx. Operation (abdominal section) was performed, and as an abscess was found in the left cornu of the uterus, that organ, as well as both pus-tubes, were removed. In this case the urine had been examined by two different gentlemen, the one finding peptone, while the other did not. The importance of this report, therefore, is somewhat vitiated by the discrepancy in the urinalyses.

Case V.—Patient of Dr. Howard Dager, seen in consultation. She had had severe intermittent pain, and constant tenderness over both ovarian regions for a number of days. Had at the time but a *slight* elevation of temperature, and a *slightly accelerated* pulse. She looked bad, and was evidently septic. Examination revealed immense mass posterior to the uterus and in both broad ligaments, extremely tender to the touch. Uterus was apparently normal in size. Urinalysis showed peptone reaction. Diagnosis—Pelvic abscess. Operation (abdominal section) revealed multiple abscesses of tubes, ovaries, and broad ligaments on both sides, besides a large peri-rectal abscess. Dense intestinal adhesions everywhere, and the appendix was enlarged and bound down firmly in a mass of plastic lymph. The abscess tissue was dissected out and peritonæal cavity irrigated with saline solution and gauze-drainage employed.

Case VI.—Patient of Dr. John H. Boger's, with whose permission I report it along with the gynæcological cases. Patient suffering with suppurative appendicitis; high temperature, great tenderness, and rapid pulse. Urinalysis showed peptone, and operation was delayed in hopes that the suppurative processes might become localized, and that the patient be in a more favorable condition for operation. The symptoms abated in a few days, and, among other things, peptone failed to be detected in the urine. Operation (by Dr. John H. Boger) revealed extensive appendiceal abscess, which was completely walled off by dense lymph adhesions. This case illustrates very well the value of peptonuria as a means of determining the course of a suppurative process, and the most favorable time for operation.

Case VII.—Patient seen for first time during second week after abdominal section. Had had hypodermoclysis in both breasts. When I saw her she had septic temperature and great pain in both breasts, which on inspection were found to be intensely congested and marked fluctuation could be elicited.

Free incisions were made, and a large amount of pus evacuated from both breasts.

Urinalysis, prior to the opening of the abscesses, showed marked peptone reaction.

In conclusion I would say that it is interesting to note that in *all the cases* in which peptone was found in the urine, pus was found in the pelvis, and only in *one pus case* was there a discrepancy in regard to peptone in the urinalyses.

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FURTHER REPORT ON THE IMPLANTATION OF THE URETERS IN THE RECTUM, WITH EXHIBITION OF SPECIMENS.*

BY FRANKLIN H. MARTIN, M.D., CHICAGO.

In the *Journal of the American Medical Association* for January 28, 1899, I described a new operation, having for its object the making of subsequent infection of the ureters and kidneys impossible after double implantation of the ureters in the rectum. In the March number of THE AMERICAN GYNÆCOLOGICAL AND OBSTETRICAL JOURNAL I report the post-mortem findings in these experimental operations for uretero-rectal anastomosis, where no effort was made to provide for valve formation, and in which the reports show unmistakable signs of infection of the kidneys due to ascending infection through the ureters.

I have operated upon nine dogs by my new operation, two of which recovered from the operation.

This report deals with the report of the first dog which lived in the second series, that is one operated upon after the improved method described in the *Journal of the American Medical Association* already referred to. The dog was operated upon December 22, 1898, and was anæsthetized and killed March 11, 1899—having lived nearly three months.

Operation.

1. Placed patient in Trendelenburg position; made the abdominal incision so as to expose the rectum; packed back the omentum and intestines; made a longitudinal incision of the peritonæum over the ureters down to their insertion into the bladder, and dissected them out with the finger to a height of about three inches; tied each ureter near the bladder with strong silk and severed them above that point.

2. Brought each ureter forward and approximated them in front of the rectum by including the wall of each in one fine silk suture armed at each end with cambric needles (Fig. 1c); approximated the ureters further by two fine silk sutures passing through the outer walls of the ureters only, securing the two tubes parallel as shown in Fig. 1. Placed severed ends of the ureters on a gauze-sponge while executing the next step.

* Read before the Chicago Gynæcological Society, March 17, 1899.

3. Made a longitudinal incision two inches long through the peritonæal and subperitonæal tissue of the upper wall of the bowel, and dissected back this tissue so that an oval surface of the muscular coats of the intestine was exposed, the length of the primary incision in the bowel and one inch wide at its center. The flaps were held apart by silk stays, tenacula or small retractors.

4. After making sure that the bowel was free of fæcal matter, and having secured it above by a clamp, I made a small incision through the remaining coats of the bowel about large enough to admit the two ureters without pressure and about one-third the distance from the

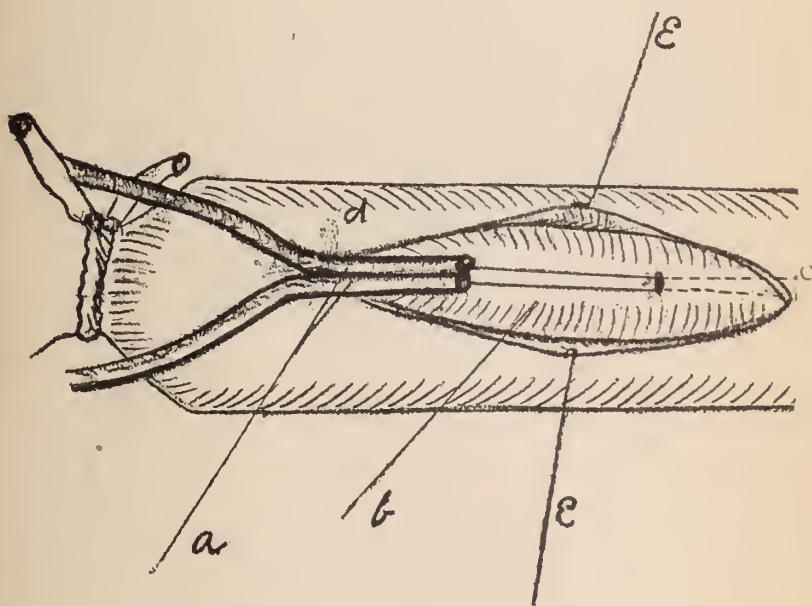


FIG. 1.

lower end of the oval denudation; passed through this opening into the interior of the bowel the double-threaded suture previously placed in the ends of the two ureters and brought the needles out a short distance apart, slightly below the lower end of the denudation, about one inch from the opening made for the ureters (Fig. 1 c), and drew the ureters through the opening and to the point at which the stay-silks found their exit (Fig. 2 c).

5. Elevating the two ureters at right angles to the bowel, they were secured to the fibrous and mucous coat of the bowel by a number of

closely applied sutures of fine catgut or silk, great care being necessary not to penetrate to the mucous coat of the ureter or to apply the sutures so as to constrict the ureters. The ureters were then laid parallel with the bowel on the denuded portion, the handling-silk was made taut, and additional sutures passed, securing the ureters to the muscular coat of the intestine as it was rolled in by the tension of their ends.

6. The ureters were now buried in the muscular coats of the bowel

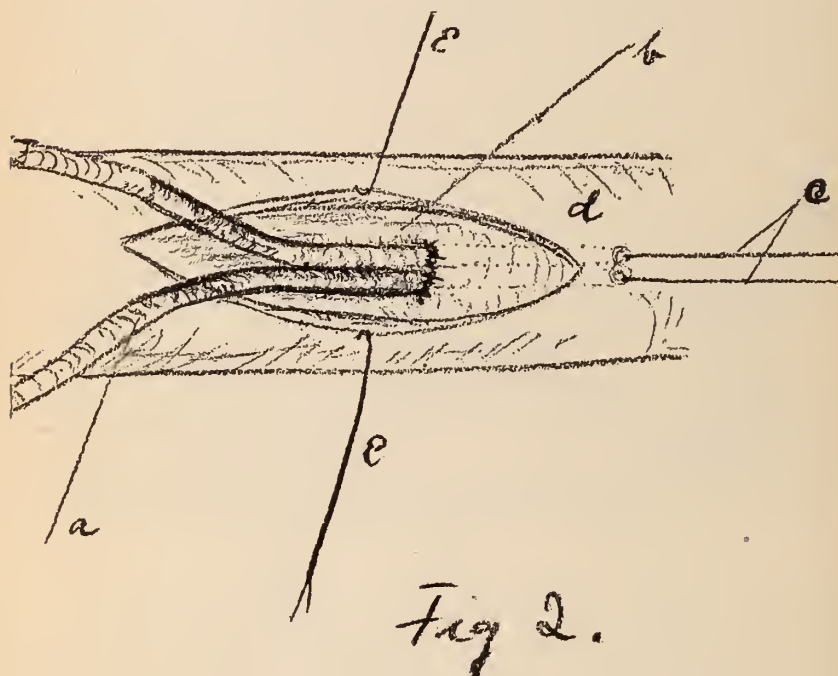


Fig 2.

by folding those coats over them for a distance of one inch (Fig. 3 b. b.) and securing them to the ureters by fine-silk sutures.

7. The peritonæal coat of the bowel was closed over the ureters to the point where they separated and then below them above that point. This was accomplished by a running-inversion stitch of silk. A few additional interrupted sutures of silk attached the peritonæal coat to the outer coat of the uterus (Fig. 4).

8. I closed the abdomen with a small gauze drain, passing down to the bowel in the lower angle of the wound.

Principles of the Operation.

The principles of my operation are as follows:

1. The ureters empty into the bowel in the direction of its long diameter, and from above downward, so that the urine is discharged in the direction taken by the fæcal current.

2. The ureters are buried in the walls of the rectum for a distance of an inch or more longitudinally, so that in the act of defæcation the fæcal mass will squeeze the caliber of the ureters closed by its pressure on the mucous membrane, and that pressure is exerted from above

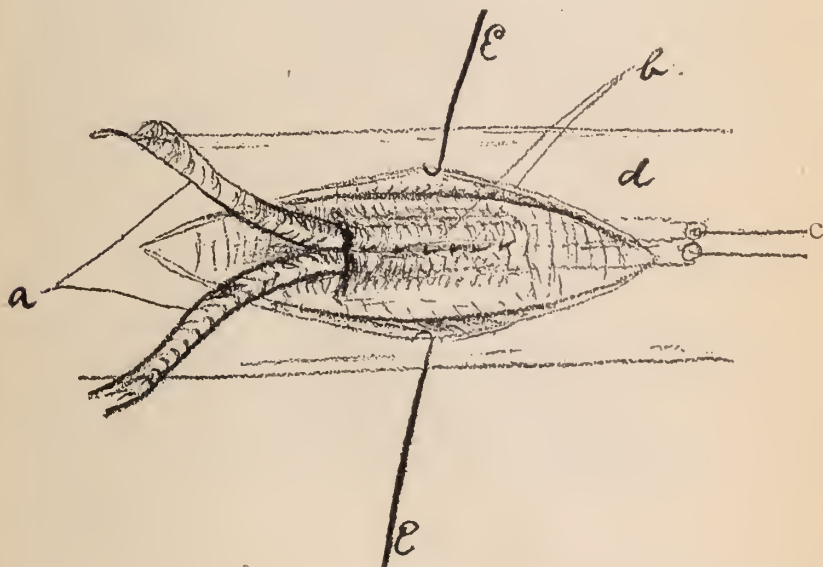


FIG. 3.

downward in the direction of the onward flow of the urine, thereby emptying the ureter by a milking process.

3. The ureters are further protected by the muscular coat of the intestine. This is accomplished by surrounding them in their longitudinal course through the intestine to the extent of two centimeters by the circular coat of the bowel. This muscular coat of the bowel, in acting from above downward, milks the urine downward and holds the ureters closed when the rectum is aiding in defæcation. When the contraction and closure due to the defæcation is over, the urine will spurt forth with considerable force, acting as its own cleanser.

4. The ureters are implanted in the lower bowel, which is normally empty, except at defæcation.

The post-mortem findings as kindly developed for me by Dr. F. Robert Zeit, of Prof. Klebs Pathological Laboratory, are given below:

Preliminary report of bacteriologic findings during life, and post-mortem, in case of implantation of both ureters into rectum.

BY F. ROBERT ZEIT, M.D.

Case IV. (March 11, '99)—Large black male dog, weighing 45 pounds. Professor Franklin H. Martin operated on this dog three months ago. This dog, which had been kept with a number of others, lately contracted an infectious disease common among dogs, beginning with diarrhœa, purulent conjunctivitis, poor appetite, fever, and ending with great emaciation and an eruption all over the body. Under the circumstances Dr. Martin decided for an immediate examination, the dog having been quite well until a short time ago. On March 11th he

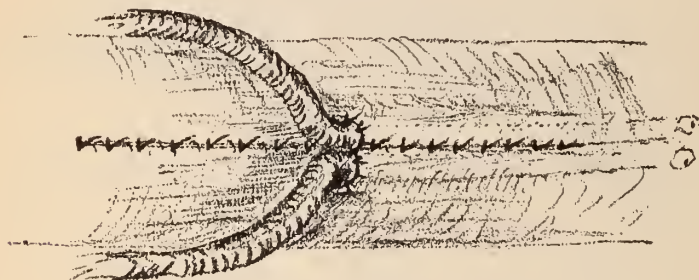


Fig 4.

was chloroformed, the abdomen opened, and cultures and coverglass smears taken from incisions into the liver, spleen, and right and left kidney, with the following results:

RIGHT KIDNEY—*Smear*: No micro-organisms found (41).

Culture: Gave growths of bac. coli communis (42 and 43).

LEFT KIDNEY—*Smear*: No micro-organisms found (44).

Culture: No growth.

LIVER—*Smear*: No micro-organisms found (45).

Culture: *Bac. coli communis* and coffee-bean-like diplococci (46).

SPLEEN—*Smear*: *Cocci*:

Culture: *Staphylococcus aureus* (Staining by Gram).

After these procedures the dog was killed by drawing the blood from right carotid.

POST-MORTEM.—Heart, lungs, liver, spleen, and intestines apparently normal. Both ureters were found implanted in the rectum six inches above anus. Water poured into pelvis of kidneys passed into the rectum, somewhat easier from left than from right kidney. Mucosa of rectum normal. Both ureters enter the rectum at about the same point, the mucosa showing a papillomatous nodule about the size of a large pea, from the base and sides of which spurts one fine stream when water is poured into pelvis of right kidney. If the same procedure is undertaken upon the left kidney, two fine streams spurt from the sides, near the apex of this papillary growth. It would seem that what operative skill can achieve has been realized here. And yet:

THE RIGHT KIDNEY shows, on section, the picture of suppurative nephritis. The capsule, non-adherent, being removed, numerous elevated, yellowish, purulent foci of the size of a millet-seed are seen distributed over the whole surface of the cortex. Upon section, yellowish, purulent rays are seen extending towards the surface of the organ, and there ending in the millet-seed elevation just described. Hyperæmic areas are seen along the bases of the pyramids and along the regions of the interlobular vessels and vasa recti. The pelvis is empty and apparently normal. No bacteria were found in it in cover-glass smears.

THE LEFT KIDNEY is almost normal, except portion along the middle of convex border, which has a nodulated appearance similar to that of the granular kidney of chronic interstitial nephritis. The capsule was slightly adherent over this portion. Pelvis normal.

THE BLADDER, strange to say, was found moderately distended with a semi-purulent fluid which escaped from the urethra when pressure was exerted. Cultures and coverglass smears were taken directly from the bladder:

Smear: Staphylococci, streptococci, biscuit-shaped diplococci (47).

Cultures: *Staphylococcus aureus* and streptococcus, staining by Gram; and biscuit-form diplococci, decolorized by Gram (48, 48a). Coverglass smears and cultures from blood of both ventricles showed

no micro-organisms or growths. The histopathology of this case has not yet been completed.

In summing up the different findings of this case: *Staphylococcus aureus*, strepto- and diplococci in the distended bladder; *staphylococcus aureus* in the spleen; it is evident that this dog has been infected from other causes than those following the operation. The absence of pyelitis in this case contrasts markedly with the findings of former post-mortems reported before this Society (Dogs I., II., III.), and speaks, in this case, against an ascending infection from the rectum up. If the left kidney can be taken for a criterion of what is to be expected after such operations, the results might be considered in a more favorable light. It is possible that this left kidney shows what would have become of the right kidney if the dog had been allowed to live.

GONORRHŒA OF THE EXTERNAL GENITALS IN THE FEMALE.*

BY A. B. TUCKER, M.D., NEW YORK.

I fear it will be impossible to make this paper an interesting one, owing to the scarcity of literature on this subject, but that so much can be done to alleviate suffering, shortening an attack, and preventing many of the complications of gonorrhœa, by paying more attention to the infection and treatment of those glands external to the vaginal canal, is my excuse for selecting this subject. An experience of more than five years in a dispensary where one comes in contact with a class of women whose virtue is far below the standard required of Cæsar's wife enables me to speak with some confidence.

I do not propose to speak of the disease and its complications of the internal generative organs, consequently I shall have nothing to say about latent gonorrhœal infection.

Perhaps there is scarcely any surface of exposed mucous membrane as abundantly supplied with glands and secreting ducts as that of the external genitals in the female. The largest of these are the Bartholin or vulvo-vaginal, and I know there is not a member here who has not had experience in treating a gonorrhœal abscess of these. The free in-

* Read before the New York Obstetrical Society, March 14, 1899

cision and drainage as in any other abscess is very simple, but when we meet a class of cases where it is impossible to do this, it is much more difficult and tedious. It is of this latter class that I am going to call your attention to particularly this evening. The glands in the connective tissue of the vestibule are the first to come in contact with the gonorrhœal discharge from the male, and are most frequently the first to be infected. The glands become distended, there is a discharge of pus, which the microscope will show to be filled with gonococci, sometimes the glands rupture and the surrounding tissues become infiltrated and have a boggy feel to the touch, while the discharge flows down across the vaginal mouth carrying the infection to the internal genitals. The next point of special interest is the meatus of the urethra, with its two ducts of Skene; these ducts lie within the meatus, nearer the floor and on each side of the urethra; they are from $\frac{3}{8}$ to $\frac{3}{4}$ of an inch in length, dividing into numerous small cavities at their upper extremities. When infected, the tissues surrounding the mouths of these ducts become œdematous and swollen, so much so that this condition is sometimes taken for a urethral caruncle, the swelling causing them to appear as one, the openings being hidden when this condition exists. The pus burrows up into the small cavities already spoken of, and there is more or less infiltration of the suburethral tissue; this may extend to the neck of the bladder, the symptoms being a frequent desire to micturate, bladder tenesmus and a heavy bearing-down sensation. While I have found both old and recent inflammations of the urethra from gonorrhœal infection, it is rather the exception than the rule that acute gonorrhœal inflammation of the bladder is found; the urethral meatus being rather large the canal being so short, there is better drainage outward than toward the bladder. In the class of cases in which there are recurrent attacks, my experience has been that there is invariably a condition where the infection of the vestibule and Skene's glands has been overlooked, an almost similar condition existing as is found in latent gonorrhœa of the male; in these cases the woman not only infects her partner in coitus, but she frequently reinfects herself in this way, Prior to the act of coitus the glands of the external genitals are more excited than those of the internal genitals. Under these conditions there is a slight congestion of these glands, and they secrete more actively than when not excited. The gonococci are thrown out in greater quantities, and carried by the excessive secretion down to the vagina. There is another point where the infection remains hidden: that is around the clitoris. In some cases the prepuce becomes ad-

herent and causes the habit of masturbation and other nervous symptoms.

The treatment of these cases is by local applications only, and I have found it very effectual. In my experience the ideal drug has been thiol. Its application is not painful, and with a little care there need be no staining of the clothing. The method of application, when Skene's ducts are involved, is to take a filiform bougie of the smallest size, put just enough cotton to cover it, dip it in thiol, full strength and pass it into the mouth of the duct. This is done every day until the discharge is almost entirely stopped, then every other day until the discharge not only seems to have stopped but until no pus can be squeezed from them. This is done by passing one finger into the vagina, placing a piece of absorbent cotton over the vestibule, in order that we may be certain that some of the discharge does not come from these glands. Then press along the urethra outward; if there is any pus in the glands it can be easily pressed out. I generally keep the patient under observation for two or three weeks longer, to see if there is any discharge and, if there is not, I feel assured there will not be a return. In treating the other points mentioned I saturate a piece of absorbent cotton with the thiol and lay it over the whole vulva; over this I put a dry piece of cotton to protect the clothing and tell the patient to wear a napkin over this.

I will report a few cases and then close.

A young Swedish woman, 24 years old, married five years. Two years ago she contracted gonorrhœa. She was troubled with the discharge for over six months. Ever since then she has been a masturbator. Examination showed that the prepuce was adherent to the clitoris. Upon breaking this up there escaped nearly a half of a teaspoonful of pus. This showed, under the microscope, a number of gonococci. After a few treatments she was cured of her bad habit and all signs of gonococci disappeared. Four weeks afterward there had been no return of any of the symptoms.

The next case was that of a young married woman who came to my office complaining of a burning and bearing-down sensation about the urethra. Upon examination I found the Skene ducts swollen and a yellowish discharge coming from them, which showed the presence of gonococci in great numbers. After treatment for two weeks this disappeared and there has been no return in over a month. She never had any vaginal discharge and there was very little involvement of the vestibule. She told me at her last visit that her husband had owned that he had contracted a case a week before she had become infected.

Another case, an acrobat by profession, came to my dispensary class. She complained of a slight vaginal discharge but more especially of the burning around the urethra. Examination showed the Skene and the vestibule ducts to be very much involved. Although she had an involvement of the urethra the cystoscope failed to show any trouble with the bladder, nor was there any during the whole course of the disease.

I have now under observation a young woman, the last case to apply to me for this trouble. She applied for treatment ten days ago, with every sign of gonorrhœa. I say she had every sign of the disease, because I did not have the discharge examined by the microscope. She is now free from all discharge and has passed from under observation, as she lives in Chicago.

My observations have led me to believe that the first points of infection are the glands of the external genitals, and if a case is seen in time, during the primary stage, and treated, there is not much likelihood that it will reach the vagina. Thiol and cleanliness are the best and quickest treatment.

MANUAL DILATATION OF THE CERVIX UTERI.*

BY DANIEL LONGAKER, M.D., PHILADELPHIA.

I shall report a number of cases of instrumental delivery, in which the use of forceps was preceded by artificial dilatation of the cervix. The term manual is perhaps sufficiently descriptive of the method employed, and needs few additional words. Suffice it to say, the procedure is deliberately undertaken and carried out at the moment it becomes clear that interference is wise. It does not consist of a little teasing of the os with the finger, frequently repeated, in the course of a prolonged labor. More than one or two digital examinations should never be necessary; one early, the other at the time artificial aid is rendered. I believe the danger of infection increases in a direct ratio with each repetition of vaginal exploration. Then, too, vastly more definite results are gained by palpation, especially in the class of cases under discussion. I want to urge an objection to the words *accouchement forcé*; since the fingers and finally the folded hand are passed without force, but with the utmost gentleness, this term clearly conveys a wrong impression. It may not be superfluous to add that an anæsthetic is necessary and also an *aseptic technique*.

The artificial dilatation in these cases was immediately followed by the forceps, the blades in every instance being passed into the uterus. In a few of them it was possible to press the head down into the pelvis when it had been arrested at the superior strait. The attempt to push the cervix up over the head in imitation of the natural retraction which normally occurs was never fully successful. This effort, however, was always maintained during the subsequent traction, the aim being to get the head through the os without dragging the cervix down to the outlet.

Case I.—Application of Forceps above Superior Strait.

Mrs. S., a patient under the care of Dr. Wm. Egbert Robertson. She was a large, muscular, well-built working woman; 28 years of age; primigravida; pelvis ample. Active labor had been in progress over thirty-six hours when I first saw her. Pains were recurring regularly every two or three minutes. Her general condition was very

* Read before the Philadelphia Obstetrical Society, April 6, 1899.

good. After a moderately distended bladder had been emptied, the hand could be slipped beneath the head and the finger-tips approximated to the sacral promontory in the intervals of the pains. The dorsum of the child lay to the mother's right, the head tending to engage in O. I. R. P. The cs had thin edges and was the size of a silver dollar; the membranes were unruptured. Under chloroform anæsthesia manual dilatation was accomplished in a half hour. Tarnier forceps were at once applied, the distal end of the traction-rods resting on the fourchette. In about two hours we succeeded in delivering a twelve-pound boy baby. No cardiac pulsation could be felt, but after a brief interval the infant made a feeble gasp; resuscitation was not successful. The head, which had been grasped obliquely, presented a slight scalp-wound. The right vaginal sulcus was immediately stitched, requiring five worm-gut sutures. It healed perfectly. Convalescence was without incident.

Case II.—Application of Forceps above Superior Strait.

Mrs. J. M., Am.; primigravida; aged 20; of short stature and slight build. She first came under my care in the early part of '98. Her last menstrual period had occurred in July, '97. April 15th had been computed as the probable date of her labor; not later. The patient firmly objected to the examination I desired to make six weeks before this date. Her mother, she said, had never been examined prior to labor, and she would not be. I learned subsequently that the mother's first baby was born dead, and the woman in question was herself a small seven-months' baby.

Shortly after midnight on a Saturday morning I had my first opportunity to make the coveted (?) examination. The pelvis was empty; the abdomen strikingly large and pendulous; the head above the inlet. There was a show; pains were recurring every fifteen minutes. These conditions remained unchanged, save an increase in the frequency of pains, for forty-eight hours; at the end of this time there were five-minute intervals between pains. Dilatation was not progressing; the head in O. I. L. A. at the brim. The membranes ruptured spontaneously at 11 P.M. on Monday: the amniotic fluid was very dark and doubtless charged with meconium. Pains continued feebly expulsive for an hour after this, and then diminished in force and frequency; at the same time the foetal-heart sounds became slower, falling to 100; very soon below this, and in a few minutes were no

longer heard. I observed also repeated general movements of the fœtus lasting perhaps ten or fifteen seconds.

With the assistance of Dr. Trau, who anæthetized, I first dilated the cervix manually, and then delivered, by means of Tarnier forceps, a ten-pound girl baby; dead. Traction efforts did not continue over thirty minutes. Slight hæmorrhage and marked shock followed. Labor occurred about four weeks after the computed time. Convalescence was quite good. In six weeks the woman was examined in my office; involution being perfect, and the intra-pelvic condition entirely satisfactory.

Case III.—Mrs. B., English; aged 20; wife of a seaman; primi-gravida; last menstruation ceased September 15, 1896. I was called about two weeks after the date computed as the full period of gestation; she was in the first stage of labor. Pelvic measurement indicated no abnormality. The head not engaged, but was tending to do so in the O. I. L. A. position. At the expiration of over forty-eight hours, during which time chloral and bromides were used, the head had partly descended into the pelvis. Though the os was small and the membranes unruptured, the pains at this time were distinctly expulsive. The foetal-heart tones continued good, but the patient's energies were flagging and she was anxious for relief. Further delay seemed unwise. Chloroform was given and the os manually dilated, one hour being required. The disengaged hand pushed the head down so that it was readily grasped by Simpson forceps, and an average-size female infant was extracted: completing a labor of about seventy-two-hours' duration. The intra-pelvic condition six weeks later was perfect. The infant was at the breast.

Case IV.—Mrs. P., Am.; aged 40; wife of a workingman. This is a woman whose parturient history is coeval with my obstetric career. I have an intimate personal knowledge of her twelve parturitions, including a pair of twins. She is of large size, with a normal pelvis. I was called to her early in the morning in this particular instance, pains having been in progress all night. The head was unengaged, dorsum to right (a right-occipito-posterior position). Abdomen pendulous. In spite of a firmly applied bandage, postural treatment, and strong, regularly recurring pains, for thirty-six hours more, but little progress was made; the os was but partly dilated, the large head being still at the brim. Manual dilatation under ether was followed by Tarnier forceps, these being substituted by Simpson's, when the head reached the inferior strait. A large female child was born in asphyxia pallida; it subsequently did well.

Case V.—Simple Flat Pelvis.

Mrs. S. This woman was seen in consultation with Dr. Loeb, after she had been in active labor twenty-four hours. The head was arrested at the brim, position O. I. L.; os partly dilated. Under chloroform manual dilatation was completed in half an hour and the head was pressed into the pelvis. Delivery by Tarnier forceps. The baby was in asphyxia pallida, the cord being compressed between the head and the walls of the pelvis. Mother and child did well subsequently.

Case VI.—Simple Flat Pelvis, c. v. 8 cm.

The essential features of this case were similar to Case V., save that the head was in O. I. R. I saw her after she had been in labor forty-eight hours; the physician in attendance had been vainly trying for some time to hold up the "anterior lip" with a pewter spoon bent at right-angles. She was etherized; the os dilated, and the head pushed through. Forceps quickly brought it to the outlet; they were removed and the head enucleated; a small living male baby being born. Ritual circumcision was done at the usual time, and the infant died at the age of three weeks from infection of the wound. In January, '98, just two years later, this same patient gave birth to a male baby after a normal labor of seventeen-hours' duration.

Case VII.—Mrs. N., German; aged 30; a large, well-developed woman, with an ample pelvis; III. para. The first pregnancy ended in an abortion; the second, in a dead, macerated baby, five years before. (The husband admitted syphilis.) November 15, '95, was computed as the full period of gestation; two days after this date I was called. After she had been in labor about forty-eight hours the os admitted two fingers; the head was engaged O. I. R. P.; membranes unruptured; heart-tones heard. The woman was fast becoming exhausted and begged to be relieved. With the assistance of Dr. Robertson, who kindly gave ether, I stretched the os manually and ruptured the membranes. Meconium was discharged with the amniotic fluid. The attempt was made to have the cervix slip up over the head, as the latter was pushed down; without success, however. By Tarnier forceps it was brought to the pelvic floor, and then enucleated by pressure on the ischio-rectal fossa and suprapubically. A living 9½-pound boy was born.

Case VIII.—Forceps at Superior Strait.

Mrs. A., Am.; aged 33; primigravida. Insomnia, lasting a number of days, was a complication of the latter part of her pregnancy. Labor occurred at term. After having been in active but ineffectual labor for thirty-six hours, during which time chloral and morphine were used, I gave chloroform and dilated the os. At the expiration of an hour, the head remaining at the brim, Tarnier forceps were applied and by very slight traction the delivery was completed, the head rotating in the grasp of the blades. The position was O. I. R. P. The boy, now in his fifth year, has never had a day's sickness. This woman suffered from sciatic neuritis for some months after, pain being particularly noticed on the right side.

Case IX.—Mrs. S., Am.; aged 22; primigravida. After ineffectual labor had continued twenty-four hours, the head being in O. I. R. P., membranes unruptured, I dilated the os, and delivered by means of Simpson forceps. Prior to their use I rotated the occiput manually; but it assumed its original position and remained posterior, going to the sacrum, being finally delivered in this position. After a lapse of ten minutes the baby, which was a girl, was crying vigorously. It did well. The woman suffered marked mental depression amounting to melancholia during the puerperium. Six years later a second child, a boy, was born after a normal and unaided labor lasting but ten and one-half hours. The same mental symptoms were again observed. In both cases the lying-in period was unattended by fever or other evidence of septic infection.

Case X.—Mrs. F., Am.; aged about 24; primigravida; was seen in consultation with Dr. Drummond. She had been in labor many hours. After unsuccessful use of Champier de Ribes' bag, I dilated manually and delivered a large boy baby by means of Tarnier forceps, mother and child doing well. The position of the head was O. I. R. P., terminating as usual in anterior rotation.

The ætiology of non-dilatation of the os in these cases of obstructed labor has long interested me. I think the term "rigid os" nearly always means something else than rigidity *per se*. The fact that in seven of the ten cases reported the dorsum of the fœtus lay to the mother's right, is perhaps of some significance; the right occipito-posterior position thus being more than twice as frequent as the left anterior. This is a direct reversal of the ratio of all cases inclusive, in which the left position is about twice as frequent as the right. I am, however, convinced that this is not all. In the three cases in which the position was

a left, the progress of the labor differed in no way from the rest. Moreover, we constantly see the right occipito-posterior terminate in the most natural manner, and without the slightest delay, either in the dilatation or in the subsequent stage in descent and anterior rotation. It is not necessary to cite instances of this—the fact is too well known. The particular in which the right posterior that terminates normally differs from the same position that ends abnormally is the relation of the head to the plane of the inlet. So long as the bi-parietal diameter has not approximated or passed the superior strait, the uncertainty of prognosis is equally great; be the position right or be it left. The essential factor common to all these cases of retarded labor, of which non-dilatation of the os is only a symptom, is thus seen to resolve itself into any condition that prevents or delays the proper engagement and descent of the head. Such is disproportion, whether due to ten and twelve-pound babies, as in Cases I. and II., or to narrowing of the pelvis, of which Cases V. and VI. afford examples.

The notion that labor may be indefinitely prolonged without injury to the child, so long as the membranes are unruptured, needs modification. Cases II. and VII. are instructive in this connection; in both meconium was discharged with the amniotic fluid, and this is always an indication that the child's life is endangered.

In Cases I. and II. gestation was prolonged. Both afford examples of the use of forceps above the superior strait, an operation over which I have never been very enthusiastic, because, too frequently, its results are disastrous to the child. With a moderate amount of disproportion, the transverse diameter being ample, version, in my opinion, is to be preferred. As a rule, there will be sufficient dilatation to allow one leg to be brought down, and when this is done it is often a wise plan to allow the case to pursue a natural course. The leg forms a very good natural dilator; the pains usually grow strongly expulsive after the lapse of a short interval, and artificial dilatation becomes superfluous.

My experience of artificial dilatation by the hand has been almost wholly limited to the class of cases detailed in this paper. Hence, I have said nothing of its use in two conditions in which it would appear peculiarly applicable: ante-partum hæmorrhage and eclampsia. In placenta previa, my results with podalic version have been so satisfactory that I am loath to adopt any other plan: in premature detachment of the placenta, and consequent concealed internal hæmorrhage, I have used the method of manual dilation and forceps with satisfaction. In a recent case of eclampsia, occurring near term, which appeared to offer

great difficulty in securing dilatation, the administration of large doses of veratrum viride and morphine hypodermically made more aggressive measures unnecessary.

Case VIII. has just given birth to her second child, a girl, weighing about eight pounds. I will mention some of the details of this case. She has a bad family history: her mother died, comparatively young, of apoplexy, and a brother insane. Insomnia and mental depression were features of the latter months of her recent pregnancy. Vague and indefinite pains lasted three or four days before labor actually commenced. During this time I had a daily opportunity of noting the relation of the head to the pelvis by suprapubic examination. At first the hand could be very easily slipped under the head; but each day this became less easy, and when labor actually came on it was no longer possible. The dorsum was to the right, the position of the head as in her first labor, being O. I. R. P. Labor lasted only six hours. In the early stage the woman presented an alarming condition. I found her on the floor, fainting after the pains; face pale; pulse, 130; occasional tremors of the extremities. Mentally, she was beside herself. A hypodermic of morphine produced only a temporary effect, and it became necessary to give ether. She was placed in bed, on her back, with the shoulders high. After a few hours there was complete dilatation and retraction and spontaneous rupture of the membranes; the head, in the cavity, was easily grasped by Simpson forceps and as easily delivered. Presumably, the more favorable course of the second labor was due in some degree to the smaller size of the girl's head. Perhaps equal credit should be accorded the use of ether. Is it not possible that the judicious and timely employment of this drug would serve materially to limit the necessity for artificial dilatation?

In conclusion, I will quote the following (p. 899, "An American Text-Book of Obstetrics"): "Another great cause of difficulty and danger in the high operation is the imperfect dilatation of the os and the resistance offered by the cervix. If the operator attempts to overcome this by sheer force he will most probably need to use an amount of traction that will prove dangerous to mother and child. It is better to overcome cervical resistance by artificial dilatation before the forceps is applied than by main force afterward. By the use of axis-traction forceps and artificial dilatation of the cervix the high-forceps operation may be shorn of its chief dangers."

To show that the hand may be efficiently used as a dilator in a class of cases that is always trying to the obstetrician has been the main object of this paper. Properly used, I believe it is superior to

the various hydrostatic dilators. Finally, a plea for the routine examination of patients six weeks before term; in this way only will the occasional bad results of emergency midwifery be obviated.

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REMOTE POST-OPERATIVE PELVIC CONDITIONS AND THEIR SYMPTOMS, WITH REPORT OF CASES.*

BY G. A. KLETZSCH, M.D., MILWAUKEE, WIS.

My introduction to you this evening will be through a subject which has considerable practical value, if we take into account the vast number of operations which are performed at the present day. It is not at all infrequent that we are called upon to make examinations of cases, which had been subjected to serious operations, and find the pathological conditions in the pelvis puzzling and the symptoms complained of complex. We find these cases in our own practice, as well as in cases which come to us after having been disappointed elsewhere. The treatment is still more unsatisfactory, and a resort to a second operation is the usual result, unless the case is discharged outright. I have found the management of such cases extremely difficult, for we are called upon to correct a mistaken procedure, and we cannot undo what had been done, or institute measures of treatment which were formerly applicable. It is most difficult to make a correct diagnosis of the pelvic condition resulting after the first operation. This is easily accounted for, as we are dealing with unknown quantities.

The cases which give the thoughts for this paper occurred in my practice years ago. Recently two more came under my observation.

I will consider the subject in a general way, but will not touch upon all the untoward results we find following operations in the pelvis. Minutely, I will only analyze the conditions I found in my own cases.

In the first place, I may remark, that the indications for an operation were well founded in all of the patients. Before resorting to the knife, every other means of cure were exhausted. The operations

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were done with great care and attention to all minutiae and assisted by the best assistants. The condition which developed in the pelvis could not in justice be ascribed to a want of care or lack of foresight on the part of the attendants. The patients, however, failed to get the sought-for relief, but on the contrary, developed further trouble, which could be anatomically and symptomatically located. The cases cited presented conditions which related to the position of the uterus, the condition of the stumps and adhesions which had formed. A second operation in three of the cases laid the pathological condition of the pelvic organs plainly before us. It might be possible to say that the judgment exercised at the first operation was deficient, which I am not prepared to admit, for I believe that the cause of the disturbance lay beyond the power of the knife to reach it. However this may be, I wish to bring about a most thorough discussion of the subject, if possible, in all its phases. I am not writing to give statistics, but to weigh results obtained from our work. For more thorough consideration I have divided my paper into four sections. The first will be devoted to general remarks on intraperitonæal pelvic operations.

An operation is undertaken to remove a condition, which cannot be successfully accomplished by any other mode of treatment. It is beyond our power, however, to look further than for the relief which we expect the immediate future to bring. We are not able to foresee the changes which may be wrought in the remaining parts in time to come.

In deciding to operate, what points should we consider? In the first place, the patient herself—her physical state. Whether her recuperative powers are good, whether any assimilative or circulatory defects may interfere with our results and her mental state. An operation often affects the mind, favorably or unfavorably. There are numerous reports of cases where repeated operations on one and the same patient had no result whatsoever, owing to the mind being affected. Even the positive demonstration that the pelvic organs are free from disease has no effect on the result. The social standing of the patient must be considered. Whether she lives in ease or is dependent upon herself for support. Whether she is married or still single. Whether she has borne children or is sterile.

We are dealing with organs which are everything to a woman, and upon which her whole future welfare depends. Unless the proposed operation will give the relief anticipated we ought to think twice before acting once. If to the failure to bring relief the future even

brings added trouble, our procedure must be called a decided misstep.

In general, upon what are our results of pelvic operations or our reports of cases usually based? On the immediate recovery of the patient from the operation. It is seldom we see an analysis of cases a year or more following the operation. Would it not be good practice to institute the same requirements, for the reports of operations for inflammatory diseases of the generative organs, which are asked for operations for malignant diseases? It is not the immediate recovery but the permanent cure which tells.

To reach the best results from our operative work on the generative organs two further steps must be considered. They relate to the diagnosis of the existing pathological condition and to the toilette practised at the operation. It is very important to make a correct diagnosis of the pelvic disease beforehand. Upon this depends the indication for an operation and, further, the course the operation is to take. The foundation of all our work rests upon this one factor, as well as the result. And then, how are we going to decide, whether to enter the peritonæal cavity by way of the vagina, or through the abdominal walls, unless the pathological condition in the pelvis is clear to our mind. Veit of Leyden considers the course the operation is to take the most important question with which we have to deal in the present day. It affects directly the interest of our patient. The remote results, as well as the immediate, are influenced by the procedure adopted. I consider the true and only guide we have, for our judgment of what operation to undertake and what course to pursue, the pathological condition existing in the pelvis. It will give us the clue, if we are able to determine it beforehand. Frequently we shirk this responsibility and depend upon the good immediate results hoped for from the peritonæal operation, due to our present aseptic methods of operating, and make the diagnosis after we enter the peritonæal cavity.

The operative procedure is, therefore, dependent upon a correct diagnosis of the pelvic state. The operation adopted must remove this condition and do it in a way which will affect the patient the least and give the best permanent results. It is not a question of preference of the operator, whether he favors the abdominal route, or the vaginal method; the question is to adopt that course by which we can most thoroughly accomplish good. The pathological condition in the pelvis is always the indication.

Next in importance to the diagnosis of the pelvic disease is the

method of toilette used during the operation. It influences the immediate as well as the remote results. The toilette is as scientific a procedure to-day as the operation is. In former times the lack of definite methods in technique did more harm by far than the operation caused. We have since learned to respect the anatomical parts we come in contact with at our operations. Uhlmann has reported a large number of cases operated upon by Zweifel of Leipzig, in which he reports the results obtained in regard to the toilette practised. The antiseptic, the aseptic-dry and the aseptic-wet methods were all given a thorough trial.

Uhlmann's main object was to determine the question of the production of ileus, a serious acute affection, following laparotomies. He quotes Walthard as having in the practise of the aseptic-wet method no cases of acute adhesions to report. We must take this as conclusive, for the less acute the adhesions which follow a certain method, the less chronic we will have to contend with. In the aseptic-wet method of practising the toilette in intraperitonæal operations, the normal physiological state of the peritonæum is sought to be retained. He also reports that in the practice of the aseptic methods, against the antiseptic, the clinic had only one-third the number of acute peritonitis cases to record.

It has further been shown that the peritonæum has bactericidal properties, which are not enhanced by the use of antiseptics, but on the contrary are nullified by them. Not only did the use of the antiseptics irritate the peritonæum, so that inflammatory processes easily resulted, but a physiological qualification was counteracted so that infection rapidly obtained. Whatever method of toilette employed, next to careful manipulation of the peritonæum at operations, was the prevention of carrying infection onto it. Abrasions and denudations of the peritonæum lead to the formation of adhesions with neighboring parts. Septic infection, however, produces permanent and often dangerous adhesions.

The toilette, in reference to oozing and bleeding surfaces is of importance. It is best not to depend too much upon the physiological properties of the peritonæum in taking care of liquid or clotted blood. The same may be said concerning ligatures. They should be used in sufficient strength and number to insure the safety of the parts treated. It is well known that the peritonæum can take care of them easily if they are aseptic and lie entirely intraperitonæal.

Conservatism is naturally called for wherever it can be applied. But whether we always do the best for the patient in practising it is a

question. The indications for the extent of the operation in pathological growths are well defined. It is not so, regarding inflammatory processes affecting the tubes, the ovaries and the pelvic tissues. To give a definition of both, I would say that the indication for operating where pathological growths have formed are positive, whereas where inflammatory processes are only present are negative. I admit that this is a broad statement. But you all will agree with me that the same influence which has brought about the changes in the generative organs has also affected the pelvic tissues. We are able to remove the results of the inflammatory process produced in the ovaries and tubes with their extirpation but cannot do the same from the pelvis. That is why we so frequently see our patients recover from the immediate effects of an operation, but later on they develop the old train of symptoms, with others added thereto. On the other hand the point is not yet decided, in cases of suppuration in the tubes, when to remove these only, and when to remove the entire organs of generation; as we seldom find pus-tubes without extensive adhesions to the pelvic tissues, and the infection in the tubes must also be in the uterine cavity, when to remove altogether.

The preparation of the patient beforehand and the after-treatment may influence the remote results met with. To operate without having the bowels entirely empty or the abdomen and vagina thoroughly clean would lead to untoward results. Whether the early post-operative dosage with laxatives, or the frequent administration of narcotics, is the best practice, I will not discuss.

The same short note will I accord the suturing of the abdominal wound, as I will not consider ventral hernia, abdominal sinuses nor fistulous tracts.

If I have entered somewhat lengthily on the foregoing remarks, I beg your kind indulgence, but each one can influence the remote results after operations.

The second part of my paper will be devoted to the consideration of the anatomical parts with which we come in contact in our operations.

The Generative Organs.—The first in importance are the generative organs themselves. While operating on them, the pathological condition presenting must guide us in our work. After the peritonæal cavity is opened, we are able to verify the diagnosis. Whether the intended operation can be carried out, the objective pathological findings will have to determine. We may be able to act more conservatively than first planned or adopt more heroic measures to do our duty.

Here apparently an inconsistency exists. We must admit that with the best of care in our examinations and with the best of intentions, to come to positive conclusions, we are frequently surprised at what we find in the pelvic cavity, after opening it, and that our diagnostic procedures have still some shortcomings to correct. The operator must have cool judgment and be experienced in his work, in order to be able to cope intelligently with every phase of pathological problem which may unexpectedly present itself in surgery of the pelvis. The much-lauded conservatism on the one hand, as well as the heroic procedure on the other, may err, and the truthful and correct analysis only of our operated cases will decide which is right.

The Bladder and the Rectum.—Both of these organs deserve consideration as to the effect the operation will have upon them. The irritable condition of the one, giving a desire of more frequent relief of its contents on the one hand, and the sluggishness of the other, in its action, may be directly caused by the pelvic condition. The position the uterus is left in may effect either. A too extreme anteversion of the organ compresses the bladder and interferes with its function in an hysterorrhaphy, and an extreme anteversion of the uterus in Alexander's operation does the same thing. Removal of the adnexa and failure to see that the uterus remains forward will eventually cause symptoms by pressure on the rectum.

Adhesions, which form after an operation, between the abraided surfaces on the one hand and the peritonæal covering of the bladder or the rectum on the other, may produce from the lightest to the most serious results.

The Peritonæum.—Next in importance of the organs operated on is in all probability the peritonæum. For all that it covers the generative organs completely, it is seldom taken into account in the operation directly. It has resented this often enough, in that it has undone some of our cleverest operations, by causing an early demise or remotely bringing about conditions, which proved themselves harder to combat than the original affliction. We still do not know the importance of this vast membrane. It certainly has more properties than belong to a simple serous membrane. In the normal state, it has tremendous absorbing qualities. Large quantities of fluids are readily taken care of. In certain pathological conditions immense amounts of transudations can be thrown out. Its bactericidal properties are of much value to us; the uninjured membrane is also capable of coping with them. The peritonæal cavity could hardly be opened without germs from the air finding their way into it. Experiments have been made

to demonstrate this point. At the conclusion of an operation done under the strictest aseptic rules, germs can be cultivated out of the fluids in the peritonæal cavity. Another function which it possesses is that of encapsulating sterile foreign bodies, making them innocuous. If this were not the case we could not use ligatures so freely as we do in the peritonæal cavity. It is done by a process of regeneration, which also makes good any injury to the membrane if not too great in extent and if free from infection. If the peritonæum is endowed with all these important properties, it must be easily affected or injured during our operations. Exposure alone to the air will lead to changes in the epithelial covering which favor the formation of adhesions. Extraordinary manipulations of the peritonæum cause abrasions, at which places adhesions form. Laceration of this membrane give rise to severer forms of union to other surfaces in the pelvis. Nature, however, must frequently overcome these injuries to the peritonæum when they are simple. Should they become complicated with septic material, this changes the subject. Alone, the injured peritonæum can reconstruct itself, but septic matter adds an irritant which very soon produces inflammation. Out of this results the strongest adhesions, if the process is limited, or fatal peritonitis if it becomes general. Rissman has shown by his experiments that adhesions between undenuded surfaces of the peritonæum are easily separated and even overcome by Nature. Adhesions between two denuded surfaces are of a more permanent nature; but wherever adhesions are caused by septic inflammation they are not only permanent but dangerous. Retraction and constriction follow, which are so severe that alarming complications are wrought.

Blood has also a marked influence on the formation of adhesions, when left in the peritonæal cavity. So long as the membrane is uninjured it is quickly reabsorbed. On raw oozing surfaces it remains as a foreign material, which acts as a splendid material for the propagation of bacteria.

The conclusions we must come to, in regard to the peritonæum, are the following: (1) To expose it as little as possible during the operation; if unavoidable, to protect it against the air as well as infection. (2) To handle it as cautiously as is consistent with our work. Any unnecessary injury to it should be avoided. (3) To prevent its being soiled with septic material. For this is the agent which brings about the most serious affections. (4) Liquid blood may be reabsorbed, but blood-clots should be scrupulously removed from the peritonæal cavity, especially if extensive raw surfaces have been left on the visceral or

parietal peritonæum. (5) Our present methods of operating have brought acute affections of the peritonæum down to a minimum; our attention must now be turned to the chronic adhesions and minimize these. (6) Will the study of the peritonæum solve the question of the day, by which route we are to enter its cavity, or will we have to be guided by the existing pathological conditions of the generative organs?

The Omentum.—This apron-like membrane, covering the whole intestines, is hardly considered in operations in the peritonæal cavity. At most it is at times used to place between the abdominal incision and the intestines to prevent adhesions forming. Whether this is the only use it can be put to time will tell. We know that it must have more important functions. We have all seen how it protects the abdominal from the pelvic cavity, when pus or blood are found in it. Even before rupture has taken place it forms an impregnable barrier to a growing extra-uterine gestation or to a developing pelvic abscess. This must be of importance, and yet how annoyed we feel at the omentum, when it insists upon forcing its presence upon us, during an operation.

The Intestines.—The consideration as a whole, which we must give the intestines, may be connected with that of the peritonæum; but when we find union so close between them and the genital tract, that more than the serous covering is affected, they deserve separate mention. It is not at all infrequent that we find this state of affairs to exist. It is also remarkable that acute adhesions of the intestines to denuded surfaces in the pelvis give such serious trouble, whereas at times we find the entire convolutions firmly adherent to pathological growths, without giving the least disturbance.

Chronic adhesions following operations give as serious constant disturbances as the acute give quick and deadly ones. The third part of my paper will treat of an analysis of the pathological conditions found at the time of the second operation. The symptoms can be ascribed to the conditions presenting in each case.

A review of the pelvic conditions shows that they were either produced by inflammatory processes or through circulatory disturbances. The one produced material of a connective-tissue kind, the other a tissue resembling the one in which the disturbance exists. The first are easy of explanation, for they probably had some connection with the operation. The controlling of the second does not lie in our power, and they are not influenced by anything that we do. We can learn from this, however, that we should practise every care and avoid the pro-

duction of the former, and study our cases before operating, in order to forestall the realization of the latter.

My first case was operated on in 1886. The ovaries and the tubes were removed, the convalescence was smooth, but the result as to relief from her symptoms was negative. She remained an invalid and bedridden. Her temperament was not such that the fault could be placed there, for she had a bouyant and hopeful spirit. She had fulfilled all the requirements which Nature exacts of woman and had borne children. Every year brought a child, when all at once her marital relations were changed. She lost her husband. She developed an extremely sensitive condition of the pelvic contents. The ovaries were large and filled with cysts, the tubes were engorged, and the uterus was subinvolted. Removal of the adnexa did not allay her trouble. A second operation, about fifteen months later, revealed the uterus still large, fallen on the rectum, and from the stumps a large number of pedunculated fibrous growths projecting, which showed that the removal of the adnexa did not remove the cause of her trouble. Was the cause of her ailment present in the pelvic organs, or did it only show the consequences of some systemic disorder? A supravaginal hysterectomy was now done, the pedicle being fixed in the abdominal wound. She again made an uneventful recovery. The ultimate result remained the same—she was not improved. Death followed two years later, and an autopsy revealed no cause for all her distressful symptoms.

The second case relates to a woman who had run a sewing-machine the greater part of her life. There was absolutely nothing else which would account for her trouble. She was industrious and diligent and enjoyed the confidence of her employers. Her mode of work gradually produced a congestion of the pelvic tissues which affected the generative organs. The ovaries were transformed into large blood-cysts, the uterus was retroverted and firmly bound down to the pelvic floor and to the rectum. The adhesions were broken up and the adnexa removed. The uterus was suspended to the abdominal wall. She quickly rallied from the operation, and for a time could again follow her occupation. The broken-down adhesions posterior to the uterus must have reformed, for all the symptoms of rectal constriction, even in a worse form than the primary ones, soon developed. A second operation disclosed a thick cord extending between the uterus and the rectum. A firm, broad band, resembling a third broad ligament, suspended the fundus to the anterior abdominal wall. This was a favorable outcome of the first operation. It was long enough to insure freedom of movement to the uterus, and strong enough to hold

the same in proper position. The lower band was the offending member. It, however, probably helped form the upper one by continuous traction exerted on the same.

The third case I saw in consultation with Dr. Fitzgibbon of Milwaukee, and examined her twice, the last time under the influence of an anæsthetic, without being able to explain the existing pelvic condition. On reopening the abdomen a picture presented itself which I shall never forget. The omentum was attached to the brim of the pelvis, protecting the abdominal cavity from the pelvic condition. Loosening the omental adhesions, the retroverted uterus was seen held down to the pelvic floor by extremely firm adhesions, running from the distended stumps of the uterus backwards, being assisted by adhesions of the small intestines. After breaking these, the real condition was disclosed. The ligatures of both stumps, of the first operation, were not at the horns of the uterus, but displaced outwards to the walls of the pelvis. A rare condition presented itself here, the building of a new pus cavity, between the ligature at the distal end of the horn and the body of the uterus at the proximal side. The tissues of the newly formed sacs were covered with peritonæum, beneath which a striated wall could be seen.

Evidently the point of infection was situated beyond that of the part extirpated, and the suppurating process was not overcome in the remaining stumps.

The fourth case is that of a very intelligent woman, but the secondary pathological condition could not be verified through an operation. She was well informed and knew the importance of her symptoms. Not having had relief from an Alexander operation, which was very successful in its results in that it held the uterus in perfect position, an abdominal section was made and the adnexa removed for the relief of still continuing distressful pelvic symptoms. Her periods never entirely ceased, after the removal of the ovaries and tubes, but that was explained by her physicians on the ground of it happening in other cases also.

The throbbing mass which I felt in the right horn of the uterus, upon my first examination of the case, gave me the impression of tubal pregnancy, but that condition was out of the question in this case. Close watch of the cystic mass for two weeks did not reveal any increase in its size, although during this time other symptoms developed which pointed to extra-uterine gestation. The discharge of grumous black shredded blood, accompanied by intermittent uterine pains, was probably due to an outflow of blood from the cyst into the cavity of

the uterus, out of which it was expelled. My explanation of the case is that in the second operation for the removal of the adnexa, not all of the parts of the ovaries and tubes were removed, which accounted for the periods, and that for the same reason enough tissue remained at the stumps to allow a dilatation to take place, which was induced through some disturbance in the circulation. A true hæmatoma had formed in the stump of the right horn of the uterus.

Mrs. B., came under my observation in April, 1886; aged 30 years. She was married eight and one-half years and had had six children, the last one fourteen months before. No miscarriages. She was sick for four and one-half years and was worse since her last confinement, with backache and extreme exhaustion, following on the least exertion. Some leucorrhœa. Four weeks after the last labor the monthly periods again set in and remained regular thereafter. They lasted for from five to seven days, the amount being small, with pain during the first three days of a bearing-down character. She gave no symptoms referable to the bladder or bowel. In 1885 she had a tear of the cervix and of the perinæum repaired in the Woman's Hospital in New York.

At the time of consultation, she complained principally of an extremely weak back, backache, headache, and pain in the nuchæ, loss of strength, and indigestion. Examination per vaginam showed that repair of the cervix and perinæum had been successful. The uterus was retroverted in the second degree, with a very sensitive condition of the posterior cul-de-sac and painful ovaries. She was put under local treatment, consisting of the application of iodine to the vaginal vault, and glycerine pads, hot douches and tonics. Months later the uterus was replaced himanually, never with the sound, and pelvic massage was practised. The local condition improved very slowly, the uterus was in better position, but the sensitive condition of the posterior fornix never allowed the application of a pessary. Her general condition was not bettered. She was unable to walk. The periods were regular but were accompanied by more pain of a crampy nature and severe bearing-down pains during the flow, with nausea and vomiting.

October 5, 1886, her history stated that her periods were six days in duration, the amount of flow being considerable, with backache and severe bearing-down pains, especially during the first two or three days. She is only able to walk by holding on to a chair for support, and feels weak in the small of the back and through the pelvis and groins. Examination showed the uterus still retroverted in the second degree, with a very sensitive condition at both sides of the uterus, where

the ovaries could be felt enlarged. The body of the uterus was sub-involuted but movable.

In December following, the menstrual discharge became offensive and was accompanied by severe pain and depression. The local condition remained the same. A consultation was called for and it was deemed best to remove the ovaries, not only on account of their enlargement and tenderness but to bring about a premature menopause.

A laparotomy was performed. The uterus was found retroverted but not adherent. The ovaries were enlarged and had undergone cystic degeneration. The tubes were engorged and thickened but contained no secretions. The adnexa were removed on both sides, the stumps being transfixed and tied off close to the horns of the uterus with silk ligatures, the body of the organ being left to take care of itself, as it was thought that it would now grow smaller and not give any more trouble. The antiseptic method of toilette was practised. The abdominal wound closed and the patient made an uneventful recovery.

A note in her history, six months later, shows that she had no more periods, but without any improvement in her general health whatever resulting from the operation. She remained an invalid. An examination per vaginam revealed the uterus still large and retroverted, with considerable resistance, and an indistinct fullness at the sides of the body. Every effort to give relief seemed futile. Six months later, or a year after the first laparotomy, her general health and local condition growing worse, it was thought best to remove the uterus, for it compressed the rectum and kept up a constant irritation of the pelvis and back.

On reopening the peritonæal cavity the uterus was found large and retroverted. From both stumps projected pedunculated growths, which were not malignant, but simple papillomas, and due to an attempt of Nature to regenerate the removed parts. The uterus was easily brought up into the abdominal incision, the neck transfixed with needles, the body cut away, the peritonæum sewed around the stump, the abdominal incision closed. The toilette was again antiseptic. The patient made a good recovery from the operation, the cervix sloughed out, but the vagina remained attached to the abdominal wall.

The patient was able to go into the country the summer following, but she never regained the desired health.

Case II.—L. M., aged 38 years, came under my care September 28, 1890. She was single, and had been sick for eight years. Her work for years had been the running of a sewing-machine.

She complained principally of backache, pain in the left side, pressure on the rectum and pain in the back of the neck, preceding violent headaches. She was very anæmic and had indigestion. Her periods were usually regular, but at times they were previous, appearing every three weeks. They lasted five days, were profuse in amount and were accompanied by cramps and bearing-down pains during the whole course of the flow. She had considerable vaginal discharge and frequent desire to pass water, but her bowels moved regularly. Examination showed the uterus retroverted and fixed, with a large, hard mass posterior to the cervix and to the left, and a smaller mass to the right side. She was put under local treatment and an attempt was made to raise the uterus.

May 30, 1891, a note says that her periods came too frequently, lasted five days and were profuse in amount. They were preceded by shooting pains through the rectum and back and burning pain in the hips. During the period, she had bearing-down pains in the pelvis extending down into the legs and cramps for two days. The pelvic condition was then as follows: A small mass to the right side of the retroflexed uterus, and a mass as large as a hen's egg, fixed, to the left side. A sound in the uterus passed to the right side, and in trying to replace the uterus, the mass in the left side remained fixed and attached to the uterus by means of a pedicle, which was short and thick. A diagnosis of uterine subserous fibroid was made.

In October, 1891, she entered the Woman's Hospital. Re-examination then revealed the mass in the left side to be cystic. She was operated, on the 23d, an abdominal incision being made. The uterus was found retroverted and to the right side. In the left side a hard, cystic mass was found, closely adherent to the uterus and to the posterior surface of the broad ligament, the tube, normal in size, running over it. The mass, which proved to be a cystic ovary, was detached from its bed with great difficulty. It broke during the process of enucleation, discharging a thick black fluid into the pelvic cavity. The ovary and the tube were removed close to the uterus, the pedicle being transfixed, tied off with silk ligature, and the stump cauterized. Another smaller mass was discovered attached to the broad ligament on the right side, the tube also coursing over it, in a normal state. Both were removed in the same way as the other side. The masses proved to be ovarian hæmatomas. The uterus was now free and was raised up and stitched to the abdominal wall. Catgut ligatures were passed through the round ligaments, at their origin from the uterus,

and through the peritonæum just below the lower angle of the abdominal incision.

The abdominal wound was closed. The toilette was aseptic, and the pelvic cavity was flushed with sterile warm water. Directly after the operation the patient had severe pain in the pelvis, which continued for forty-eight hours and then suddenly ceased. She vomited only once. She passed gas per rectum on the second day, and the bowels moved freely on the third day, after a mild laxative. She had no rise in temperature, but an extremely slow pulse, it at times not registering 50 beats per minute. A week later it was impossible to move the bowels, and the fæcal impaction in the rectum was broken up by the finger, and removed by enæmas. She was discharged from the hospital November 21st, the uterus remaining attached to the abdominal wall anteriorly, but with a sensitive thickening in the posterior fornix vaginæ. She again went to work but did not feel relieved of her trouble.

In October, 1893, the following notes were made: The patient's general health impaired. She works but accomplishes little. She complains of a soreness through the rectum, backache, and vomiting. She passes, per rectum, a mattery stuff. Examination per vaginam shows the uterus small and adherent to the abdominal wall anteriorly. The rectum is adherent to the posterior surface of the uterus by a strong band of adhesion and is filled with fæcal matter.

On November 8, 1893, the abdominal cavity was reopened, the incision passing through the old scar. The omentum was found adherent to the whole line of union. These adhesions were separated and the patient put in Trendelenburg's position. The uterus was held to the anterior abdominal wall by a broad membranous band, one and one-half inches wide and two inches long, it being attached below to the anterior surface of the body of the uterus and the fundus. From the posterior surface of the uterus, at the junction of the neck and the body, a thick cordlike band projected to the rectum, encircling the same. This was resected and the cut surfaces sewed up with catgut. The abdomen was closed. Aseptic toilette was used.

Three days after the operation her bowels moved and she passed gas per rectum. She had pain under the shoulder-blade and developed inflammation of the lungs, which produced high temperature for a week or ten days. On November 25th she was doing well. She improved slowly, however, and could not be discharged from the hospital until January 17, 1894. Her bowels gave her distress, and she had

cramps with each movement. She again went to work, but did not gain the desired strength.

Case III.—Miss A., aged 31 years. Single. She began to menstruate when she was 14 years old. The periods were regular, always painful and profuse. As she grew older the pain and the amount of flow increased. Her surroundings were good and she worked hard.

At the time she presented herself for examination, she complained of pain in her right side, backache, and profuse leucorrhœa. She was very nervous, which was not her natural disposition, and at times hysterical. She suffered from indigestion, eructations of gas and constipation. At the time of her periods, all her symptoms were intensified. The flow was prolonged, the pain in the pelvis severe. She had been under observation and had received local treatment.

Her general health was impaired, she had an evening rise in temperature, and her pulse was rapid. A vaginal examination showed the uterus retroverted and firmly fixed to the floor of the pelvis with large, sensitive masses on both sides of the body.

A laparotomy was performed on her in November, 1897. The uterus was found retroverted and firmly adherent. The ovaries were large and inflamed, and the tubes distended with pus, and both coiled around and firmly adherent to the uterus and posterior surface of the broad ligament, and to the pelvic floor. It required patience and hard work to release them out of their fixation, but it was accomplished without rupturing them. The ovaries and tubes on both sides were completely removed close to the uterus. The uterus was anteverted but not fixed in this position. The toilette practised was the aseptic-dry method. The abdomen was closed and the patient made an uninterrupted recovery. She left the hospital in four weeks and was able to work upon her return to her home.

The summer following the operation the leucorrhœa reappeared. The nervous disturbance again developed, and the backache was severer than ever. She was told to quit work, take hot douches, and tonics were prescribed for her general health. There was no improvement in her condition. She again had evening rise of temperature and a dull, heavy feeling in the pelvis.

A vaginal examination, thirteen months after the operation, revealed a large, soft, fluctuating mass in the right side of the pelvis. The uterus was small and retroverted and fixed. The vagina was bathed with pus after the examination. It was also very apparent that the mass in the pelvis varied in size and consistency at different examinations. It appeared to be in the parametrium, and it was not

thought that it had any connection with the uterus, as the tubes had been removed. The abdomen was reopened. There were no adhesions between the abdominal incision and the contents of the abdomen. The omentum was adherent to the whole brim of the pelvis. The intestines were adherent to the pelvic organs in numerous places. On both sides of the uterus, pus-sacs were found, larger on the right side, which were connected with the horns of the body and extended to the pelvic walls. They were found coiled on themselves backward and firmly adherent to the pelvic floor and when freed from the adhesions were easily righted and the uterus raised.

As the doctor did not have permission to do a total extirpation of the uterus, with the pus-sacs, as he could impossible remove the pus-sacs alone, he had to content himself with fixing the uterus to the abdominal wall, and closing up the cavity. The patient again recovered without any trouble. It is evident, however, that a total extirpation of the uterus, with the newly formed pus-sacs, will have to be done, at some future day.

Case IV.—Mrs. M., aged 35 years, consulted me on November 1, 1898. She was married ten years but never became pregnant. Her last period was from the 18th to the 23d of October, considerable in quantity, very painful, and ahead of time five days. It was free on the second day, with severe bearing-down and crampy pains. She passed a good many shreds of blood and coagula. She complained of stinging, smarting pains in the pelvis, sensitiveness over the bowel and vesical irritability. No leucorrhœa. She is flowing again since October 29th. She had had an Alexander operation performed, to replace a retroverted uterus, which, not being followed by any relief, a laparotomy was done, and the adnexa removed, so she was assured. Her periods continued to come the same as before the operation, always irregular, as they had been from the beginning of her menstrual period, at the twelfth year.

A vaginal examination showed the cervix flattened and the os not palpable. The body of the uterus lay directly back of the symphysis pubis and was slightly movable. A short throbbing mass, as large as a walnut, could be felt in the right side, close to the body of the uterus, and felt like a distended tube. It was slightly movable, lying anteriorly in apposition with the brim of the pelvis, and projecting backwards and to the sides, free in the pelvic cavity. It was very sensitive on the least pressure. There was blood in the vagina after the examination. She flowed more the next day, and the crampy pains increased.

The flow then ceased for twenty-four hours but began again, with cramps, and again stopped on November 4th.

November 6th she complained again of crampy pains, with bearing down on the rectum and the bladder, the pains extending down both legs. The pains came at regular intervals. She had to pass urine frequently. Following this attack she had a bloody, mattery discharge from the vagina, which had no odor, and this was again followed by a steady blood flow.

Examination per vaginam showed the fundus of the uterus on a level with the upper border of the symphysis pubis, and the body of the uterus slightly movable. The cystic mass in the right side was not so sensitive and less tense, but with a distinct pulsation at its lower border. The flow continued for two days, and then ceased, the other conditions remaining the same. She complained of nausea. On the 10th the flow again set in, preceded by a watery discharge. She felt bloated.

A letter from her physician says: That the right tube is out, and he advised the administration of ergotine, which I did not approve, as I was fearful it would bring on contractions of the uterus, and consequent rupture of a thin-walled blood-cyst in the stump of the right horn.

The same night she had severe intermittent pains in the uterus, and felt as if she wanted to expel something; but with no bleeding then, but again with clots during the day following. She had no rise in temperature, and her pulse was normal. Her bowels were open, and she had frequent desire to urinate. She became alarmed, and left to consult her own physician.

She had not lived with her husband for some years.

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EDITORIAL.

CAN COMPLETE PROLAPSUS UTERI BE CURED BY PLASTIC SURGERY?

In the *Transactions of the Woman's Hospital Society*, published in this issue of the JOURNAL, one of the members, Dr. Paul F. Mundé of New York, presumed to answer this question in the negative. He settled the matter, at least to his own satisfaction, by the statement that "the ideal operation for prolapsus uteri et vaginæ, which restores the organs to their normal position and functions, has still to be devised." Had Dr. Mundé been less oracular, had he even modestly said that in "his opinion" or "judging from his personal experience" no plastic procedure known to-day was capable of curing procidentia, we would have recognized the admission of the element of personal equation and have not considered comment necessary.

But when Dr. Mundé makes so sweeping a statement, without contradiction, before a Society the majority of whose members have had ocular proof again and again of the fact that complete procidentia has been and is completely cured, not only functionally but anatomically, by plastic operations, the circumstance assumes sufficient extraneous importance to demand notice.

Dr. Thomas Addis Emmet's plastic procedure for this pathological condition, consisting of three operations, has been published for many years and in the hands of himself and those who have had both an

earnest desire and the ability to learn them, have proved entirely successful. That so many men, who have had the opportunity to see these operations succeed in the hands of Dr. Emmet and of others, still repudiate them, because, forsooth, they themselves are lacking either in intelligence, an ingenuous desire to learn or the manual dexterity for plastic work, is disgraceful. But far worse is it in the discussion of another's work to conceal this matter of personal inability and, in order to hide personal shortcomings, to ignore or belittle the work itself.

In this Dr. Mundé is an old offender. Several years ago, he was equally wild in his statements and, in the first edition of "Mundé's and Thomas' Diseases of Women," described Dr. Emmet's operation for repair of laceration of the posterior wall or rectocele as having one great fault, in that it increased (sic) the rectocele and everted the vaginal outlet. He was severely taken to task for this statement in a letter to this JOURNAL by Dr. Archibald McLaren of St. Paul, and he then explained that, though he had watched very carefully Dr. Emmet himself do the operation a number of times (in which case he must also have seen Dr. Emmet's results), still in his, Dr. Mundé's, hands the operation had always resulted as he described it! Is any further comment necessary?

Dr. Mundé's offense, in its general application, has become so common a one among gynæcologists that we think it time to call a halt. Too frequently do we hear men oracularly and unblushingly condemn an operation requiring special training and skill on the sole ground that *in their hands* it had proved a failure. We have no doubt that most of us, if we were called upon to build a brick wall and reasoned from similar premises, would declare that the mason's art was a lost art. It is time that the profession frowned upon this custom, which is unworthy of scientific men, to put it very mildly. It should demand that such men tell the truth and preface such condemnation with the statement that they themselves lacked the necessary early training and therefore skill and that either the time, the desire or the humility was wanting to them to learn later in life. *Then* let them give their personal experience with such operations, and it may really be of profit to themselves and to the profession.

In regard to the particular case in point, that of Dr. Emmet's plastic work, we will ask our readers to do a little logical reasoning. Dr. Emmet stands to-day before the medical world, and has so stood for many years, the greatest living plastic surgeon. His reputation depends principally upon his operations for the cure of procidentia, which were

presented to the profession twenty years ago in the first edition of "Emmet's Principles and Practice of Gynæcology," have ever since been publicly practised at the Woman's Hospital and have in hundreds of cases withstood the supreme test of subsequent childbirth. If in spite of all this testimony and the test of years these operations cannot cure, even in his hands, how does he deserve his reputation? If, on the other hand, they are successful when performed by him, but not so when performed by the majority of would-be plastic surgeons, what is the only remaining inference? We think it is that when men fail in the application of simple mechanical principles and special surgical skill (which is the sum total of plastic surgery), they should cease to try to fool the profession by calling themselves plastic surgeons.

Does the profession ever stop to consider upon what grounds American Gynæcology years ago obtained its reputation as *sui generis* and far in advance of all others? Was it merely because at least one of the first cases of ovariectomy was performed here or that Dr. Marion Sims invented the cure of vesico-vaginal fistula? Or is it, perhaps, because the world acknowledges that we excel her in the number and the skill of our abdominal surgeons? It is, in fact, because Dr. Emmet made the Woman's Hospital of New York known throughout the world as the *fons et origo* not merely of the cure for fistula, as Dr. Sims left it, but of plastic surgery and especially that part which relates to the cure of procidentia uteri.

It is a strange commentary upon human nature that American gynæcologists are to-day proud and content to take from European sources the dribblings and filterings of work years ago perfected and published in their own country.

However unpleasant to ourselves the task of writing this editorial has been, we feel that Dr. Emmet's reputation is too great and well-established to submit us to the imputation of over-partiality or personal bias. Were it otherwise, we could not have written it. Moreover, in the matter of Dr. Emmet's plastic work we know what we are talking about. Our final and deliberate word, therefore, is that if any man wishes, with sincerity, to learn a method of curing procidentia which will meet not only all indications but will restore the parts to the condition and even the appearance which they possessed before any injury was received, let him go sit at the feet of Dr. Emmet and remain there until he has mastered the subject not merely to his own satisfaction but to that of Dr. Emmet—*then*, if he have any surgical aptitude, we promise him he will never fall into the pitiable error of Dr. Mundé.

REVIEWS.

Massage Treatment in Diseases of Women, for Practitioners. By ROB. ZIEGENSPECK, M.D. Translated by DR. F. H. WESTER-SCHULTE. Published by Translator.

That the value of massage as a therapeutic agent in the treatment of diseases of women is being recognized is shown by the fact that several volumes on the subject have been published and that in one of the most recent and best gynæcological text-books that has appeared considerable space is devoted to it.

The systematic employment of massage was developed by Major Brandt of the Swedish army, a teacher of gymnastics. He employed massage to relieve rectal displacements as early as 1847, and in 1861 achieved success in the treatment of uterine prolapsus. Brandt's method, until of comparatively recent years, has received but scanty recognition. Now, since the wave of operative enthusiasm is receding and the details of massage treatment are being studied, it is becoming one of the most valuable of all therapeutic agents in gynæcology. Brandt believed that he relieved local conditions and reflex symptoms by applying "hygienic gymnastics" to the ligaments of the uterus. The author, as a physician, believes that his good results are obtained by stretching the parametric bands and thus liberating the vessels and nerves from contracting cicatricial tissue and restoring their function.

Since every peritonæal adhesion in its early stage is gelatinous in consistence and consequently easy to dissipate, and later becomes dense and firm, the author urges the early employment of massage.

By Brandt massage and stretching were contra-indicated by the presence of "pus and cancer." The author of the volume before us, however, goes even beyond the wide field indicated and applies the method to suppurative processes after they have ceased to be infectious; namely, after three months. The author reports four cases of pyosalpinx apparently cured by this method.

We cheerfully subscribe to the value of massage in the treatment of ovaritis, salpingitis, chronic adhesive peritonitis and all chronic inflammatory processes resulting in shrinking adhesions, etc., but the treatment of pus cases with us has been another story. The subject is a most important one to gynæcologists and the book is a valuable addition to the literature of the subject.

G. H. M.

Dr. Neesen's Book on Wheeling. New Amsterdam Book Company, New York.

In view of the number of books, magazine and newspaper articles on wheeling that have appeared since the bicycle has come into popular use, the present volume can hardly be said to fill "a long felt want." Wheeling is accepted as a general exercise and will continue to be a popular form of amusement for some time to come, notwithstanding what has been said against it and without the assistance of the author's enthusiasm for it; for to an ordinarily healthy individual the effects of fresh air in his lungs, stimulation to his nervous system and his circulation will appeal more forcibly than any argument. The hygienic hints and limitations of the use of the wheel are valuable and will well repay the reader. The cover and illustrations add to the attractiveness of the book.

H. O. P.

TRANSACTIONS OF THE CHICAGO GYNECOLOGICAL
SOCIETY.

Stated Meeting, March 17, 1899.

In the absence of the *President*, THOMAS J. WATKINS, M.D., occupied the Chair.

*Further Report of Implantation of Ureter in Rectum, with Exhibition
of Specimens.*

BY FRANKLIN H. MARTIN, M.D.

(See page 636.)

DISCUSSION.

Dr. REUBEN PETERSON: Some four or five months ago I had under my care a case of malignant disease of the bladder. Thinking that possibly the extirpation of the bladder would be necessitated, I determined to perfect myself in the technique of implantation of the ureters in the rectum. With this end in view, I performed the operation on a dog, who promptly died. A second examination of the case referred to convinced me that the disease was too far advanced to warrant total extirpation of the bladder. But my interest was aroused in the subject, and I have been experimenting upon ureteral implantation ever since. I am not prepared to report definitely regarding either the technique of my operations or their results, but will confine my remarks to the specimen before us, which interests me exceedingly. I must confess that I cannot take as favorable a view of it as does Dr. Martin, if by favorable we mean that there is hope that the operation may be applicable to the human subject. One kidney shows evidences of a distinct suppurative process, while the other kidney is by no means normal, although it is hard to say whether the contraction in the kidney can be traced to the micro-organisms which have reached the kidney from the rectum by way of the ureters. Again, these ureters seem to me larger than I have seen them in the largest dogs I have operated on, and a close inspection will show certain portions are dilated more than others. This dilatation of the ureters is quite apparent in spite of the

fact of the specimen being preserved in formalin, which contracts the tissues somewhat, although not so much as alcohol. Dilatation of the ureters means obstruction and a slowing of the current of urine, and whenever this exists we have conditions favorable for the passage upwards of the coli bacilli and the subsequent infection of the pelvis of the kidney and the kidney itself.

We have in the case reported a possible source of infection other than that from the rectum. It will be noticed that Dr. Zeit reports that the dog's bladder contained a number of ounces of purulent fluid, which bacteriologic examination showed to contain a number of pathogenic micro-organisms. Possibly a certain amount of the kidney infection may be traced to this source. I do not know what Dr. Martin's habit has been regarding the disposition of the urine one almost invariably finds in the dog's bladder upon opening the abdomen. I have learned it is safer to empty the bladder, because on, at least, two occasions where I failed to do this I found at the autopsy, a few days later, the urine still in the bladder and distinctly purulent.

I wish to commend Dr. Martin's work, for I know by personal experience that it is exceedingly difficult to keep dogs alive by any technique of bilateral implantation of the ureters in the rectum. And after this difficulty has been overcome, it remains to be seen whether in a given number of months the kidneys will become infected through the ureters. Certainly the specimens before us do not lead us to think that infection will not be the ultimate outcome of implantation.

It is exceedingly important that this question of subsequent infection of the kidneys, when the ureters are implanted in the rectum, be settled in the negative or affirmative. The number of cases reported in the literature is increasing, in spite of the question as to the justifiability of the operation. From my experience of this operation on the lower animals, I certainly would not feel justified in implanting the ureters into the human rectum. Let us reserve our final judgment until we have had an opportunity of examining many specimens of the kidneys and ureters of dogs who have lived months after the operation. Then, and only then, will we be in a position to decide definitely upon the merits of the operation.

Dr. MARTIN (closing the discussion): In reply to Dr. Peterson, I wish to say that I endeavor to remove the urine from the bladder in all cases before operating, as it is difficult to do the operation with a distended bladder. In some of the cases I removed the bladder.

Tuberculosis of the Mesenteric Glands.

BY REUBEN PETERSON, M.D.

(See page 618.)

Remote Post-Operative Pelvic Conditions and Their Symptoms, with Report of Cases.

BY G. A. KLETZSCH, M.D., MILWAUKEE.

(See page 653.)

DISCUSSION.

Dr. HENRY T. BYFORD: Coeliotomy, as we do it now, is different from what it was fifteen or twenty years ago. Since we have learned the technique and the value of antisepsis, our bad results are comparatively few. There is one class of cases, which, however, are becoming more noticeable, viz.: those whose complaints do not correspond with the local trouble. This was well illustrated by the Doctor's first case, upon which he operated twice, removing everything, without curing the symptoms. This has been illustrated in my own practice a number of times. I recall to mind the case of a woman with retroversion of the uterus, who, since confinement, a few months before, had been bedridden and extremely nervous. On examination I found an enlarged ovary in the cul-de-sac; the uterus was also enlarged, although it was movable. There was slight metritis. After consultation with her obstetrician, who had failed to give her any relief, I removed the ovary, curetted the uterus, and shortened the round ligaments by vaginal section. Shortly after this the patient returned to her home, but in a few weeks she was bedridden as before and blamed me for not having removed the other ovary. At the urgent request of her husband and physician, I finally consented to operate again. I did so, and found the uterus in normal position, but the remaining ovary cystic. Yielding to the request of the physician, I removed both the ovary and uterus. We both believed that, as long as she had either the uterus or ovaries left, she would complain, and that nothing would cure her while they were left.

Another case was that of a fleshy young girl with retroversion of

the uterus. After treating her locally for several months, I curetted the uterus and removed one ovary, leaving the other ovary, which was slightly affected. But she continued to complain as before. Not willing to unsex her, I sent her to a general practitioner, to be treated for abdominal pains, backache, lassitude. After failing to make any impression upon the symptoms, the general practitioner sent her to me for the removal of the uterus and remaining ovary. I did so under protest. But her backache, abdominal pains, etc., remained, and she went back to bother the general practitioner again.

I performed three peritonæal sections upon another patient; I removed an ovary which did not seem to be very badly diseased, and left the other intact. This patient complained constantly for a year or more, at the end of which time, at her earnest request, I opened the abdomen, found the ovary perfectly normal, and closed the wound without removing it. At the end of another year I finally removed that ovary which had become cystic, and the patient has not troubled me since.

Here are three cases in which the pathology was not really sufficient to justify the removal of those organs, and yet the patients complained a great deal. Those represent a large class of gynæcological cases who probably never need an operation at all. Their pathology is not pelvic yet. Their thoughts and imagination are directed to the pelvis, and it is difficult to persuade them that the pelvic organs are not at fault.

These constitute a very important class of cases, and when spaying operations shall have become less popular there will be fewer gynæcological operations of this kind.

With reference to the after-effects, and the success attending these operations, there are three things which I think explain why we do not have as bad results now as formerly. The first of them is asepsis. I do not believe there is one operation in ten that is aseptic. Perhaps it cannot be otherwise, on account of the number of nurses and assistants employed in each operation. If we were more painstaking to render ourselves perfectly aseptic, we could safely do almost any operation we desired. Nearly all bad results come from sepsis.

Another thing is to isolate the field of operation within the pelvis and keep away from the intestines and abdominal viscera, and thus avoid complications.

The third thing is to finish the operation and leave the parts in proper shape. To finish an operation is as much a work of art as to

finish a picture, and the results of a properly finished operation are very different from those of an imperfectly finished operation.

A point which is not brought out sufficiently often in our discussions is with reference not only to completing the operation, but the after-treatment. I will illustrate this by citing two cases. I operated on a young lady, who had been advised to have both ovaries and uterus removed. She was bedridden and had been having the rest-cure treatment for two months. I found cystic degeneration of both ovaries, endometritis and severe dysmenorrhœa. I curetted the uterus, cut off all diseased parts of the ovaries, and sutured the remnants of each ovary with fine catgut. Probably I removed two-thirds of each ovary. I kept track of her for several months. At the end of two months she came to my office and I still found slight exudates about the ovaries. I advised quiet for a while longer. At the end of six months no exudate was felt, and after this she became so well that she went to dances and danced all the evening without bad effects. She menstruated regularly and painlessly.

In another case of a similar nature I resected a little less of one ovary. This patient returned to her home, shortly after which she commenced to complain, and at the end of three months her physician said she still complained of pain in the pelvic region and wished to send her to me for another operation. The ovary was sensitive, and there was a little exudate about the catgut ligatures. I learned that she had been eating injudiciously and doing heavy housework. I counceled a regulated diet and restricted exercise. She then took better care of herself and gradually got well. Allowing patients to get up in ten days after vaginal or abdominal section, and go home at the end of three weeks, and to partake of all kinds of food in the second or third week may be the cause of the continuation of symptoms for a long time. The reason that a great many of such women are sick so long is because they are allowed to do things that they ought not to do before the effects of the operation have passed off.

In ordinary cases, if we operate aseptically, confine the traumatism to the field of the operation, if we properly complete our operation and then look after the case afterwards until the patient is well we will have but few remote post-operative pelvic symptoms.

Dr. THOMAS J. WATKINS: This is one of the most important subjects for discussion in gynecology to-day, because all gynecologists undoubtedly get unfavorable remote results from operations. One of the most recent and important means of avoiding post-operative complications is the use of the Skene electrical hæmostatic forceps, because

it eliminates the necessity of the use of ligatures and sutures, which are always liable to give trouble; then, again, the pedicle that is made is small, and the heat is not sufficient to cause necrosis, as has been repeatedly demonstrated by experiments. Probably one of the most important post-operative complications is exudates. I doubt if there is any one, who does many abdominal operations, who has not cases in which exudates occur after operation. Just what relation exudates bear to drainage is somewhat uncertain. Personally, I believe that the non-drainage method increases the danger of exudates. Since I have been using drainage less I have had more trouble with the formation of exudates in the field of operation. What is true of exudates applies, to a large extent, to adhesions, as frequently exudates terminate in adhesions.

Another very important post-operative condition which has not been referred to is the effect upon the general nervous system and mental condition of the patient from the production of the artificial menopause. This is probably so well recognized now that a part of an ovary, at least, is always left, when it is possible, so as to avoid the artificial menopause, and I am not so certain but what it would be good practice in a case of abscess of the ovary to open and drain the ovary in a young woman, rather than to produce an artificial menopause.

In the last case reported by Dr. Kletzsch, I believe the mass described was an exudate, which produced some obstruction to the venous circulation of the uterus, and thus produced the uterine hæmorrhage.

Dr. HENRY P. NEWMAN: The ground has been pretty well covered by the essayist and the discussions of Drs. Byford and Watkins. It occurs to me, however, that there are one or two other points that I would like to call attention to. First of all, we will not do radical operations to the same extent in days to come as we have in the past. For instance, in cases of pus-tubes or of pelvic abscesses the radical operation of complete removal will scarcely be done in the height of the disease or in the acute inflammatory stage, but these patients will be treated more conservatively by drainage. Subsequent operations may be necessary, but we will then operate under much more favorable conditions, and they will not be of such a mutilating character.

The method of Keith or Skene, referred to by Dr. Watkins, has a future, as well as the Doyen method, which I have recently presented to this Society, with clinical cases, and a new instrument for clamping or crushing pedicles, broad ligaments, etc. By this procedure we cannot only provide prompt and complete hæmostasis, but do away with

all ligatures, and the associated massing or bunching together of tissues in large pedicles and of the broad ligaments in hysterectomies. After operating by this method, the stump, if it can be called such, is a mere fringe of crushed tissue, of ribbon-like thinness, extending along the entire length of the amputated structures, thus obviating the drawing sensations and displacements so often among the sequellæ of stump ligations. We should also bear in mind the difficulty of covering these stumps with peritonæal tissue, and the consequent danger of granulating surfaces to the formation of adhesions. I am further convinced that, as we leave less foreign material in the peritonæal cavity, we will have correspondingly more prompt and better recoveries.

The fact that ovaries are being left at the present time is not without some danger of secondary operations, that is, we can never depend upon ovarian tissue that has once been involved in chronic inflammation because it is apt to again take on inflammatory changes after the diseased portion of the ovary has been removed. Yet I do not wish to be understood as not favoring the more conservative method of removing only portions of ovaries that are diseased, especially in menstruating women, where there is sufficient healthy tissue to continue ovulation.

I am in accord with the paper that has been read. It shows us that it should not only be our aim in all instances to get patients out of bed, but to get them well. Another reason for unpleasant post-operative effects is that the uterus is frequently left in a very unfavorable condition after suprapubic work has been done. I recall a case in which a noted Eastern operator removed the tubes and ovaries very skillfully, but the patient did not get well. These organs were removed for pus-tubes, but he left an inch of the tube on either horn of the uterus. She came to me in January of this year. I examined her and found the uterus septic. I also detected nodules in both cornua of the uterus. The infection was believed to be of gonorrhœal origin and there was interstitial salpingitis in the remnants of the tubes that could be palpated on either side of the organs. Extirpation of the organs was advised; the uterus was removed, and the amputated stumps of both tubes stood out as large as the end of my thumb at either angle, and were filled with pus and gonococci. The operation through the abdomen was thoroughly done, with the exception of leaving a portion of each tube, as there were no adhesions in the pelvis, the uterus was perfectly smooth, as were the stumps, and there were no unpleasant or post-operative results that could be referred to the laparotomy *per se*. The condition of the uterus in many ways is a menace to the after-re-

covery of the patient; not that I believe in extirpating the organ, as a rule, for inflammatory trouble; but I believe we should attempt to restore it as near to a healthy condition as possible after a salpingo-öophorectomy, and never amputate septic tubes, but enucleate their interstitial portions, closing the V-shaped wound with catgut sutures. I think it also bad practice to sew up a large subinvolved or chronic hyperplastic uterus after the Emmet method until we are quite sure that all septic metritis and endometritis is cured. The cervical canal is apt to be narrowed and lengthened by the Emmet operation—a condition prejudicial to proper treatment of the infected endometrium and one in which the inflammation is apt to get worse through improper drainage, etc., rather than better.

It is also true that we cannot leave these chronically inflamed organs markedly displaced after perinæal or other work and expect prompt and proper recovery. Oftentimes such a uterus is the major cause of the suffering and invalidism, and to enter the abdomen to remove a small, simple cyst (a direct sequence of the diseased uterus), and to leave the major pathology to take care of itself, is sure to be followed by unsatisfactory results. It is true the exact converse of this frequently occurs, minor plastic surgery is done upon the uterus or external organs, when indications are for operations on the appendages or some abdominal surgery. In short, the gynæcologist cannot do as does the general surgeon—operate upon a single organ or tissue and expect complete recovery. The genital organs of the female are so intimately associated with each other, as well as with neighboring organs, that it is the exception rather than the rule, that a single operation will correct all the pathology and cure the patient; hence multiple operations, and this at one time, not subjecting the patient to repeated anæstheziations, is an essential factor in providing against the unsatisfactory results of some gynæcological surgery. Clean, careful, complete surgery, with the aim to restore position and a healthy function—where possible—of all the organs involved, as well as the general after-supervision of our patients, is necessary for prompt and proper *physiological* as well as *anatomical* cures.

Dr. REUBEN PETERSON: The Doctor's paper is very exhaustive in that it takes in nearly the whole realm of abdominal and pelvic surgery. We have two classes of cases that puzzle us after operations. First, those cases where the pathological conditions are exceedingly difficult to remove. I have in mind a number of such cases upon which I have operated. The operations were long and difficult. I usually was obliged to tear the appendages out of the pelvis, and

sometimes the uterus also had to be removed. The patients recovered from the operations, and I congratulated myself that they were alive.

However, very soon after leaving the hospital they began to have a return of the symptoms; extreme pain in the pelvis and abdomen, and were almost as bad as before I had operated. In some cases I removed the uterus at a second operation, and this resulted in some improvement where considerable hemorrhage existed from irritation from part of the appendages I had left. In the class of cases I have described radical removal of the organs did not effect a cure. The adhesions are too dense, and quickly reform in the pelvis and about the viscera, and it makes no difference how much we may perfect ourselves in technique, what kind of ligatures we use, there will remain a certain amount of pelvic pain, and the patients be more or less invalids.

We have another class that is even still more perplexing than those cases I have mentioned. In these the pathology is not so marked. We remove the diseased organs; we resect the ovaries, or remove the tubes, yet after this is done and the patients leave the hospital they are apt to importune us to relieve the pains which have been relieved but little. Apparently we did good operations, the women should be well, but they are not. Now, as far as my experience goes, the trouble does not lie in our operative work, but in the patient's nervous system. This is either constitutionally weak, or has been made so by the pelvic disease. In one case we have nerve-cells of unstable equilibrium plus pelvic disease; in the other, we have nerve-cells whose increased instability arises from the diseased pelvic organs. In both cases the nervous system may be so changed that no benefit will result from operative procedures; in fact, the latter may even make the patients worse. In the future we must be more careful to diagnose certain cases that cannot be relieved by operative measures.

With reference to drainage, my experience is the reverse of that of Dr. Watkins. Formerly, when I drained a good deal, I got more exudates.

Dr. WATKINS: You used abdominal drainage?

Dr. PETERSON: Yes. When I closed the abdomen, in nearly all of my cases I got fewer exudates. Sepsis has resulted more frequently in those cases I have drained.

Dr. DANIEL T. NELSON: I would like to emphasize what Dr. Peterson has said with reference to bad results, and I believe that our bad after-results are often largely due to want of proper diagnosis. I know it is so in many of the cases that have come under my observation, and I have found it out either at the operation, or sometimes afterward.

when I could see where an error in diagnosis was made. I want to emphasize, too, Dr. Peterson's remarks that we not infrequently have two conditions in one patient. For instance, we have pelvic disease, for which we treat the patient, and on account of being one-sided, or perhaps not having educated ourselves along other lines, we are apt to see pelvic disease in considerable quantity, such as disease of the ovaries and of the uterus, displacements, etc., and think that is the cause of all the patient's pains; whereas, if we understood the disease in its entirety, and considered that there are other organs than the pelvic which may be involved, our results would be, perhaps, more satisfactory. Varicose veins is one of the conditions that has troubled me very much. We all know that we are more liable to have trouble after operations when there are varicose veins than if the veins are normal. We frequently find, when we operate, enormously dilated veins, and if these do not return to a normal condition after operation post-operative troubles are more apt to occur than if we previously had not these enlarged veins. Then, too, we do not rightly estimate the condition of the spinal and sympathetic nervous systems and the nerves we are operating upon. The general surgeon understands perfectly well that when he amputates a limb and a nerve is implicated in the cicatrix there is going to be trouble in that region or perhaps in distant regions; of nerves or of the nervous system, and may we not get this condition in our patients post-operative? Again, we may have a twofold disease. I recall to mind a case that very nearly gave me medico-legal trouble, but, fortunately for me, other good physicians saw the case, and it was an easy matter to avoid medico-legal complications. In this case both ovaries and tubes were involved; they were removed skillfully; the patient recovered rapidly from the disease for which the operation was performed; but some time after the operation, before she got out of bed, it became evident from other symptoms that there was serious organic disease of the lower spinal cord, locomotor ataxia, which had not been recognized before operation. The last time I heard of the woman was to the effect that she was a hopeless invalid from spinal disease, which was undoubtedly advancing and beginning to involve the cerebral regions. So here was a case where we had two diseases to combat instead of one.

Dr. KLETZSCH (closing the discussion): I wish to thank the members of the Society for their free discussion and the kindness with which they have treated my paper, and I agree with every one of the gentlemen who have discussed it, particularly with Drs. Byford and Newman, who have referred to cases that had undergone secondary

operations. For all that these operations were not referred to in the paper they dealt with cases where the conditions existing in the pelvis could be verified after the first operation. Dr. Newman referred to a case which was similar to the one I had described. I fully agree with the remarks of Drs. Peterson and Nelson, and the point brought out by Dr. Nelson particularly is very important, namely, our inability to make a correct diagnosis, and what we do find does not always represent the trouble, which exists in the patient herself. We simply operate for the pathological condition, and do not consider the symptoms which may come from other sources.

In regard to the remarks of Dr. Watkins, nervous symptoms did not enter into my cases, but ought to have been brought out in the discussion. The same with reference to the question of drainage, which ought to be a feature of the discussion. I did not dwell upon it in my paper, for the reason that I was unable to get access to the very excellent papers on drainage that were presented before this Society by Drs. Senn, Watkins, and others at a previous meeting.

Official Transactions.

C. S. BACON, *Secretary.*

TRANSACTIONS OF THE PHILADELPHIA OBSTETRICAL SOCIETY.

Stated Meeting, April 6, 1899.

The *President*, CHARLES P. NOBLE, M.D., in the Chair.*The Clinical Significance of Peptonuria in Pelvic Abscess, with Report of Illustrative Cases.*

BY W. FRANK HAEHNLEN, M.D.

(See page 629.)

DISCUSSION.

Dr. DACOSTA: I would like to ask Dr. Haehnlen the condition of the kidneys in the second case when the peptones ceased to be found there. I have listened with great interest to the paper, and yet, with all due deference, do not think the presence of peptones in the urine is a positive evidence of pus in the pelvis. I ask these questions because I have noticed peptonuria in certain cases of Bright's disease.

Dr. MCKELWAY: It did not seem to me, as the doctor cited his cases, that the test had helped him at all in the diagnosis. His diagnosis was made in each case without the test, and his test merely corroborated that which he had already determined. I believe that in all cases of pus in the pelvis which is being absorbed and giving rise to septic symptoms we should be able to make a diagnosis without the aid of this test. The test does not locate the condition. The most that is claimed for it is that it indicates the absorption of septic material from somewhere. Even the finding of a mass in the pelvis and peptone in the urine in a patient with septic symptoms would not necessarily indicate pus in the pelvis. There might be absorption from some other focus of inflammation. If, therefore, in our cases of sepsis supposedly dependent upon pelvic suppuration we are not able to exclude other sources of septic infection we certainly would not be helped by the peptone test, and if we are able so to do the peptone test remains merely a pleasing, but not material, corroboration. It occurs to me, however, that in the sometimes obscure rises of temperature occurring after operation, due some-

times to exhaustion, sometimes to nervous perturbation, sometimes to constipation, sometimes to beginning sepsis, this peptone test might be of use to determine or exclude the last condition, and I believe that the value of it in such cases is greater than in the primary diagnosis of the condition requiring operation.

Dr. BALDY: As I understand Dr. Haehrlen his point was not that peptonuria was a positive diagnostic sign, but merely corroborative. Again, he does not claim in his paper that peptonuria would locate the suppuration in any one given point of the body.

I can see points which the other gentlemen have not seemed to be able to see in which peptonuria may be of some value. We all know that we ought to be able to locate pus in the pelvis, but we all know that we cannot invariably do it. It might be that we had excluded suppurative disease in all other parts of the body and located decided organic disease in the pelvis, and we might be glad to know whether there was pus in one particular organ or not. The peptonuria test might do this for us. We have all seen cases in which we have been puzzled in the differential diagnosis of extra-uterine pregnancy and pus-tubes. Here again the peptonuria test may be of use. From a diagnostic standpoint the test has elements of value which until clearly shown to be useless, may well be looked into.

Dr. WILSON: I think the test might be of value in cases of pelvic inflammation, so-called, in the beginning of the attack, where rise in temperature and possibly other symptoms would lead us to believe that there was the formation of pus. I think we have all had experience of watching such cases with the intention of operating, and have found that the case recovers, temporarily at least, without any distinct evidence of suppuration having occurred. Direct recollection comes to me of a case of a colored patient, who had been treated by the use of a pessary. There evidently had been some latent inflammatory trouble, and after she had worn this pessary she had an acute peritonitis. There was a boggy mass extending into the iliac region so distinctly evident that the contour could be made out through the abdominal wall. She had septic symptoms—irregular rise of temperature and chills. I notified the family to have the patient removed to the hospital to be carefully watched, with the view of having operation undertaken when necessary. I imagined that the patient had gone through the acute stage of the trouble and that the tumor was becoming of a pus nature. The family refused operation and I asked another physician to finish the case. In the course of five weeks, when I examined the patient, the tumor had disappeared, also the septic symptoms, and the emaciation

had given place to an increase in bodily weight. The patient looked well. The broad ligaments gave the only local signs of previous trouble. There was rigidity of both broad ligaments and a fixed condition of the uterus, not so fixed, however, as to prevent the entrance of my finger into the pelvic region. In the early stage of such a case as that I should imagine that the test for peptonuria would be most important.

Dr. HAEHNLEN: In answer to Dr. DaCosta's question as to the condition of the kidneys in the second case I would say, if I remember rightly, there was in both the second and third case a chronic Bright's disease, but where albumen was present in these cases, it was removed by filtration before the peptone tests were made, thus obviating any confusion in the albumin and peptone reaction. Moreover, the test for peptone held good in the other cases, in which there was no albumen reaction nor any kidney disease whatever.

So far as I know, peptone is not found in nephritic suppuration.

I do not claim in my paper that peptonuria is a positive sign of suppuration, but I do believe it is a corroborative sign, and one of more than a little importance.

In response to Dr. McKelway's remarks, that we ought to be able to recognize septic cases by rise of temperature, etc., I would like to say that most of us are able to do so, in typical cases, but that we not infrequently meet with cases in which there is considerable doubt, as to the nature of the pelvic lesion, as the ordinary signs of sepsis—rise of temperature, acceleration of pulse—are insignificant. Any sign, therefore, that will throw any light upon such a case ought to be availed of.

In a case which I saw not long ago attempts had been made to bring on an abortion. There was a large mass to the left side of the uterus, which the doctor had mistaken for a pregnant uterus; there was no fever; pulse around ninety. The doctor had not the remotest idea that there was anything in the pelvis but the pregnant uterus. Diagnosis of large pelvic abscess was made, and confirmed by abdominal section. Uterus found normal in size. In another case, now at Blockley, I venture to say the woman has a pelvic abscess. She has been there for a long while. Her temperature and pulse are apparently normal, and yet she has a large mass, which I believe to be an abscess, although there are no ordinary signs of sepsis. I examined her urine and found peptone, and doubt not that when I operate I shall find a large abscess. I have had a number of these obscure cases, and as the method of detecting peptone is a very simple one, it seems to me that we ought to use it in doubtful cases.

Perinæal Lacerations and Immediate Repair.

BY FRANK C. HAMMOND, M.D.

(See page 615.)

DISCUSSION.

Dr. LONGAKER: It seems to me that the statement that lacerations of the perinæum should always be immediately sutured needs a little qualification. No doubt we have all seen patients so near dead by the time they have been delivered, and the character of the tissues is such that it would be absolutely useless to introduce sutures, and even hazardous for the patient's life. I have myself seen within the last few years three such cases, where labor had been allowed to go on indefinitely, and these cases were left unsutured. One of the women at the time of delivery actually had an advanced state of septicæmia and died a few days after. The other two cases, though in a horrible condition, recovered. With this qualification, of course, I think the statements in the paper are to be accepted.

Manual Dilatation of the Cervix Uteri.

BY DANIEL LONGAKER, M.D.

(See page 646.)

DISCUSSION.

Dr. G. M. BOYD: I am glad that Dr. Longaker has brought this subject before the Society, because I feel that not all of us appreciate the importance of manual dilatation of the cervix. I believe that with the use of the bougie we have a means of inducing labor, and that by manual dilatation we have the best, and possibly the only means that is essential to rapidly dilate the cervix the labor once having been induced. So that we can throw aside, almost, the various slower methods.

Manual dilatation of the cervix is of use whenever it is necessary to empty the uterus rapidly. As the writer stated, it must not be confounded with the old accouchement forcé. I have resorted to it in pla-

centa prævia, in impacted breach, and in eclampsia coincident with labor.

In two cases of eclampsia developing at about the eighth month of pregnancy by manual dilatation (the Harris method) the cervix was made to dilate sufficiently in a half-hour that the hand could be introduced into the uterus or the forceps applied.

In a third case, seen this winter in the clinic of the Medico-Chirurgical Hospital, an eclamptic patient eight-months' advanced was given full anæsthesia. The cervix was dilated in half an hour and in one hour delivery was accomplished with forceps.

It is my belief that there is one efficient method of treating eclampsia, and that is the early emptying of the uterus. In the cases in which I have resorted to rapid delivery no eclamptic seizures have followed the emptying of the uterus.

In cases of dystochiæ from contracted pelvis it has not been my experience to find much difficulty in dilating the cervix. It fails to dilate because the presenting part is fixed at the superior straight.

Dr. NOBLE: I myself have used manual dilatation in a number of cases of obstetrics with very great satisfaction. In fact, I think in all the cases the dilatation was entirely satisfactory, except in one, in which the cause of the difficulty in labor was a too-firm fixation of the uterus by hysterorrhaphy. In that case it was impossible to dilate the lower segment of the uterus sufficiently to get one's fingers past the obstruction.

I shall not take up the time of the Society in a full discussion of Dr. Longaker's paper, being in hearty accord with his position. I merely wish to give my individual experience with manual dilatation when it is indicated.

Dr. R. C. NORRIS: I did not hear the paper, and so am not in a position to discuss it, but have heard enough of the discussion to learn that it concerns rapid dilatation of the cervix, in order to quickly terminate labor. I would like to refer to my experience for what it is worth. My own conviction is that it is an operation not free from danger, and when we are brought face to face with an obstetric emergency, such as eclampsia, we can sometimes do the patient more harm by forcible manual dilatation of the cervix than if we treated the case medically first, and then gave attention to the obstetric treatment, gaining, meanwhile, the softening and dilatation that will follow the uterine contractions. We must bear in mind that forcible dilatation is especially dangerous before the internal os is obliterated. In other words, the introduction of Barnes' bag or some mechanical contrivance

to dilate the internal os is a prerequisite to safe bimanual dilatation of the cervix. The method devised by Dr. Harris is one which requires the introduction of the entire hand into the vagina, and, therefore, frequently cannot be employed for primigravidæ. The method of introducing the two first fingers or two thumbs can be used when Harris' method cannot be utilized. In a multipara with widely distended vaginal canal Harris' method is efficient.

In the treatment of eclampsia, I have on two occasions resorted to forcible and rapid dilatation of the cervix to bring about speedy delivery, and in the last six years of my obstetric experience, those are the two cases of eclampsia that have died. They were desperate cases, and I cannot attribute the fatal termination to the rapid delivery. One case was at Blockley, and after forcible dilatation of the cervix I did craniotomy, being sure of the death of the child, but the patient died in spite of a very rapid delivery. In cases of hæmorrhage, due to placenta prævia, the conditions are very different, and we must try at once to control the hæmorrhage; the quickest method for which is to at once secure sufficient dilatation of the cervix to perform podalic version.

In the treatment of eclampsia I would not undertake forcible dilatation until skillful medical treatment, and an attempt to eliminate the poison, had been made and had utterly failed. For desperate cases I would not hesitate to do as I have done—make crucial incisions into the cervix and carefully repair the same after delivery.

Dr. LONGAKER: I am in accord with Dr. Norris in the position he takes with reference to the employment of this plan of procedure in cases of eclampsia. In fact, I so stated in my paper. In the case to which I referred I felt that, though the convulsions were occurring near term, the woman was actually in labor, and the firm resistance offered to the finger convinced me that nothing short of radiating incisions would accomplish rapid delivery. The case was that of a colored domestic. She had successfully concealed her pregnancy from her mistress by firmly strapping herself. The woman fell into convulsions. A trained nurse in the house discovered her condition. Veratrum viride and morphine were given and the convulsions ceased. Her condition seemed so favorable that I left her for a short time, and was much astonished on receiving a hasty summons to find that the baby was born.

It is especially in cases of obstructed labor that I think the method of manual dilatation is useful.

Three Interesting Cases: (1) Ureteral Fistula following Curettement of a Cancerous Uterus, Cæliotomy and Cure of Fistula. (2) Primary and Secondary Cæliotomy for Angulation of the Sigmoid Flexure of the Colon. Fæcal Vomiting following Second Operation. Recovery and Cure. (3.) Varicocele of Right Lateral Wall of the Vagina.

BY A. J. DOWNES, M.D.

(See page 622.)

Specimen of Fibroid Tumor.

Dr. J. M. BALDY: I think the specimen is of interest in one particular point of view, that of menstruation. It is somewhat old and has been in alcohol. There is, as you see, a large fibroid nodule growing off of the cervix at about the internal os; the intra-uterine nodule almost completely fills the cavity of the uterus. As a matter of fact the woman menstruated regularly, and it strikes me as bearing strongly on the subject of menstruation in connection with the possibility of the cervix itself taking part in that function at times. There is a little of the true intra-uterine mucous membrane, and the menstruation may have come altogether from that.

Official Transactions

FRANK W. TALLEY, *Secretary.*

TRANSACTIONS OF THE NEW YORK OBSTETRICAL
SOCIETY.

Stated Meeting, March 14, 1899.

The *First Vice-President*, LEROY BROWN, M.D., in the Chair.

Pregnancy complicated with Fibroids: Abdominal Hysterectomy; Recovery.

Dr. H. C. COE presented a large fibroid uterus, containing a four-months' fœtus, with the following history: Mary W., æt. 40; colored; married twenty years, and never pregnant. She was admitted to the General Memorial Hospital, with a large abdominal tumor, which had increased in size rapidly during the previous four months. Menstruation had been profuse until four months before, when it ceased and had not returned. She complained of dyspnœa, pain in the stomach, and difficult urination.

Total abdominal hysterectomy was performed two days after entrance, the uterus being removed in the usual way, through an incision nine inches long. No reaction, and convalescence normal, the highest temperature being 100.6°, on the sixth day. The patient was discharged cured during the fourth week, and was well when last heard from.

The possibility of pregnancy had been considered, but not seriously considered, owing to the age of the patient and the long period of sterility. An examination of the specimen showed that it would have been impossible for the pregnancy to continue until full term, and that even the four-months' fœtus could not have been delivered through the natural passages without great risk to the patient.

Pregnancy complicated with Cancer of the Cervix Uteri; Abdominal Hysterectomy; Recovery.

Dr. H. C. COE showed the specimen, and reported the history as follows: Tillie O., æt. 40; entered Bellevue Hospital October 21, 1897. She had been married fifteen years, and had had thirteen children and four abortions. No pelvic symptoms until four months before, when metrorrhagia on two occasions, but not profuse. Since that time noted

occasionally a slight flow; no pain whatever. Two days before entrance she had a sharp hæmorrhage.

On examination a large, friable, cauliflower mass was discovered springing mostly from the posterior lip of the uterus. The uterus corresponded in size to the pregnant organ at three and one-half or four months. Patient in good condition, and desired a radical operation. This was performed two days later. After thorough curettement and cauterization of the cancerous cervix, the abdomen was opened and, after ligating the ovarian arteries, an attempt was made to tie the anterior branches of the internal iliacs, but the light was so bad that they could not be recognized, so that the uterine arteries were secured near the outer borders of the broad ligaments, all hæmorrhage being perfectly controlled. No enlarged glands nor secondary deposits could be detected. After removal of the uterus the peritonæal flaps were sutured, the large subperitonæal raw surface being tamponed with gauze-bandage, one end of which was carried into the vagina. Abdominal wound closed with tier sutures.

Convalescence rapid, though with considerable elevation of temperature on the fourth and sixth days, dropping to 99° on the eighth. Discharged cured at the end of four weeks. She was last examined fourteen months after operation, when she was in good health, with no evidence of recurrence.

The interesting feature of the case was the absence of symptoms until after conception occurred, and the rapid growth of the neoplasm under the influence of pregnancy. Although the disease was confined to the cervix, any other than a radical operation was not considered as justifiable under the circumstances.

DISCUSSION.

Dr. HERMAN J. BOLDT: Each specimen shows the condition very distinctly. In regard to the last case, I do not think that any one at the present time could possibly disagree with Dr. Coe as to necessity for performing abdominal hysterectomy.

Dr. S. MARX: I would like to ask Dr. Coe whether, in cases of carcinoma of the uterus, there is not considerable danger of infecting the peritonæal cavity by operating from above. I should think it would be better to do the operation referred to by Dührssen as "vaginal Cæsarean section," making deep incisions in the cervix to empty the uterus, and then doing vaginal hysterectomy, in order to avoid the danger of infection.

Dr. E. H. GRANDIN: It seems to me that we should not let the second case pass without some discussion. During the past ten or twelve years I confess that I have somewhat altered my opinion in regard to the proper method of dealing with cancer of the uterus. Before my experience was as broad as it is now, I considered the partial operation justifiable in cases in which the disease was limited to the cervix, whether pregnant or not. At the present time I think that the course pursued by Dr. Coe is the only one which is justifiable. Regardless of the life of the foetus, total hysterectomy should be done, preferably from above, because we are then able to exsect more of the broad ligament than can be done from below. It should be borne in mind that we are facing a disease in which, if the procedure employed be not a radical one, the ultimate outcome will be disastrous and lead to death, and, in the face of such a desperate disease, we are justified in resorting to a desperate remedy, viz., an extirpation which is as complete as possible.

In regard to the criticism just made by Dr. Marx, I must confess that I fail to see the danger of infection to which he refers. A thorough cauterization of the cancerous growth before the abdominal hysterectomy is done will certainly do away with any such danger, if any really exists. I do not think that as good work or as thorough work, as regards the ultimate outcome so far as recurrence is concerned, can be done by any one through the vagina as can be done from above by every one who is competent to do abdominal surgery. In operating from above, we can isolate the vessels and tie them better than we can from below, and we have the ureters before us. To operate from below in a case like the one shown by Dr. Coe would be to expose the patient to injury of one or both ureters, especially since under the given condition of pregnancy the anatomical relation is disturbed.

Dr. COE: In reply to Dr. Marx I would say that I do not think I ran any risk of infecting the pelvic cavity in the second case, for the greater part of the cauliflower growth on the cervix had been removed and the raw surface thoroughly cauterized before the uterus was removed through the abdomen. I have found by experience that there is less risk of infection than where a preliminary curettement and cauterization is performed two or three days before the radical operation.

Tuffier's Angiotribe, with Report of Cases.

Dr. CLEMENT CLEVELAND presented an instrument devised by Professor Tuffier of Paris in 1898, and called by him an angiotribe, or

vessel-crusher, to be used for controlling or preventing hæmorrhage in vaginal hysterectomy. Doyen of Paris was the first to devise and use, in 1897, an instrument for this same purpose, which he called a vasotribe, and used successfully in a number of cases which he reported. Following him, in the same year, Thumin, assistant in Professor Landau's clinic in Berlin, devised an instrument, and reports a series of thirty-one cases.

Tuffier reports a series of twenty-seven successful cases of vaginal hysterectomy with the instrument.

All these instruments are merely heavy clamps, designed to gain immense pressure. Tuffier's angiotribe, according to his statement, will produce a pressure of 3000 pounds, and, comparing it with pictures of both Doyen's and Thumin's instruments, to my mind, Tuffier's is, by all odds, superior.

My friend, Dr. Appert of Paris, put me in possession of this instrument two months ago, and I have been using it constantly ever since, with entire satisfaction. The instrument appears very heavy and cumbersome, but I have found, as my experience grew in its use, its cumbersomeness disappeared. I have learned to use it with facility. You will see, by looking at the blades of the instrument, that, on their clamping-surface there is, in the center of each, a longitudinal groove. This is for a distinct purpose.

In hysterectomy the instrument is applied in the usual way of applying a clamp. Two minutes is found to be a sufficient length of time for continuing the compression. When the uterus is cut away a short stump of tissue is left designedly projecting beyond the surface of the clamp. When the instrument is removed a flat ribbon of tissue, the width of the blades, is seen, with a ridge of tissue on the upper and under surface, corresponding to the grooves in these blades. The design is that, after the removal of the angiotribe, there will be three barriers against the escape of blood. With this pressure of 3000 pounds, the inner coats of the arteries appear to be thoroughly agglutinated. I spoke above of three barriers. I meant by that, that by the end of the two minutes, which is considered sufficient time for the instrument to be applied, blood-clots are formed on both sides of the blades in the vessels and also in the small central space produced, or rather left by the grooves. I have found that these three barriers are necessary, and, most necessary of all, is the barrier on the inner or uterine side of the instrument, and, for that reason, a stump should always be left when cutting away tissue from the blades. I have had this instrument in constant use for the past two months, and have been

invariably successful with it. I do not know of an instrument which has given me such complete satisfaction. I am not entirely convinced, however, that a pressure of 3000 pounds is necessary. I am of the belief that other instruments will yet be invented which will be as successfully used as this one, and, at the same time, will not be as cumbersome, or produce quite as much pressure. I should say that it is not so much the instrument that I am enthusiastic about, but the method, which, for hæmostasis, requires nothing to be desired. I have used it both in vaginal hysterectomy and in my abdominal work, and, out of the number of cases in which I have employed it, I here report the last four:

The first case is that of Mrs. B., to whom I was called by her physician to see on March 4th. She was 32 years of age, had been married six years, but had had no children, nor miscarriages. She had menstruated last on December 25, 1898. Her menstrual history was that of regularity, of the twenty-eight-day type, and lasting four to five days, and without pain. On February 2d she commenced to flow, and continued to do so quite profusely, till she entered the hospital, on March 4th. She had had for the past two weeks a great deal of abdominal pain, with diarrhœa. For the week before December 4th the pain was localized in the right iliac region, and her physician was puzzled to decide exactly what the condition was. He had in his mind both appendicitis and extra-uterine pregnancy. He had discovered a mass at the right side of the uterus, which he was suspicious about, and felt might be the result of ectopic gestation. On examination I was enabled to confirm his suspicions. She was at once removed to the woman's Hospital, and I operated the next morning, March 5th. I found a ruptured tubo-ovarian pregnancy, with the distal end of the appendix adherent to it in a mass of plastic exudate. The appendix, together with the meso-appendix, was then removed with the electric clamp. The stump of the appendix was secured with catgut, and then covered by serous membrane. I would say here that I do not think that either the electric clamp or the angiotribe should be used on the appendix. I do not believe that mucous surfaces, by either of these instruments, can be made to cohere. I have found, when using them, that the stump of the appendix always flares open. I think the old way is, by all means, the best and safest. The tube and ovary were then removed successfully by the angiotribe, but I had to secure by catgut a small bleeding vessel in the broad ligament. I think this was because the angiotribe had not been applied correctly. The instru-

ment should be applied at a right-angle to the channel of the vessel to be controlled, and not diagonally across it.

The probable cause of the ectopic gestation was the attachment of the appendix vermiformis to the tube.

This patient has recovered without incident.

The specimen in this case is presented.

The next case was that of Mrs. H., 55 years of age, and a widow; admitted to the hospital, for the first time, November 30, 1898. Her menstruation in early life had been normal. She had had three children: the last delivery by instruments, with great difficulty. She had had no miscarriages. She had been in fairly good health all her married life. She was admitted to the hospital on account of metrorrhagia, though the menopause had occurred four years previously. She had been having a yellowish discharge from the vagina for three or four years. In September she had a flowing for ten days, which was profuse, and had been kept up, at intervals, ever since. She was examined and nothing, beyond a slightly enlarged uterus, made out. She was curetted on December 12th, and the scrapings examined by the microscope. There was, however, discovered no disease of a malignant nature, and she was discharged December 30th. The flowing had kept up ever since she left the hospital. She was readmitted February 24th. She was examined and a small fibroid was then made out in the left horn of the uterus. The operation of vaginal hysterectomy was then advised, and gladly assented to. On March 6th I performed vaginal hysterectomy with the angiotribe. The angiotribe was with some difficulty applied, because of the smallness of the vagina. I present here the uterus, which, you see, is made up chiefly of small fibroids. This patient has recovered.

The next case is that of Mrs. R., aged 29 years, admitted to the Woman's Hospital February 19th. Diagnosis, tubo-ovarian disease of the left side. She was a patient of the Woman's Hospital three years ago, when an Alexander operation was performed for retrodisplacement. The uterus was now found to be in perfect position. She had had two children and three miscarriages. The last child was born seven years ago, the last miscarriage several years ago. She complained now of pain in back and sides and bearing-down pain. Her last menstruation, which occurred February 4th, was profuse and painful, lasting eight days. On March 6th posterior vaginal section was made, and a diseased tube and ovary of the right side removed, the angiotribe being used to secure the pedicle.

The specimen in this case is presented.

The patient has recovered without incident.

The fourth case was that of Miss P., aged 49 years; admitted to the Woman's Hospital March 6, 1899. Her menstruation was regular, of the twenty-eight-day type, up to three months ago, since which time she has been flowing almost constantly. Examination under an anæsthetic disclosed a pedunculated fibroid, attached to the left horn of the uterus, a diseased tube and ovary on the left side, and a small fibroid in the left horn of the uterus.

On March 9th vaginal hysterectomy was performed with the angiotribe. The uterus was removed by morcellation, and found to contain a small fibroid in the left horn. A small cystic ovary and tube were removed from a dense bed of adhesions on the left side, and, lastly, a pedunculated fibroid. This was a very difficult operation, because of the small size of the vagina, and, having successfully used the angiotribe in a vagina so small, I am confident it can be used in any case where vaginal hysterectomy is considered advisable.

This patient also recovered.

The specimen in this case is presented.

DISCUSSION.

Dr. MARX: I would like to ask Dr. Cleveland whether he uses the instrument in cases of malignant disease, and also whether it is possible to use it in women whose vagina is narrow. It would seem to me that it is not applicable to cases of malignant disease; nor can I conceive how it is possible to make use of an instrument so heavy and formidable-looking in a case in which the vagina is narrow. In all other cases where hysterectomy is indicated or a pedicle is to be made I should think it might prove very useful.

In regard to the case of ectopic gestation in which there was some doubt as to the diagnosis prior to operation, in many instances it is extremely difficult to make the diagnosis of this condition, and I am glad that the attending physician suspected its existence in the case referred to. Not long ago I saw a case of ectopic gestation, which had been seen by six physicians, one of whom was a specialist, but no diagnosis had been made. One of them told me that the true condition was not suspected because the patient was a single woman.

Dr. GRANDIN: This instrument is certainly an innovation. Personally, I know nothing about it, for I have never used it, but I accept the statements made by Dr. Cleveland in regard to it. It seems to me, however, that it is an innovation which departs from well-established laws of surgery. The more nearly we approximate surgical rules, the

more accurate will our work be, and the less likely are we—who devote ourselves to the treatment of diseases of women—to see this work escape from us into the hands of the general surgeon. Now, speaking from analogy, when a surgeon amputates a limb, even if it be gangrenous, he does not use an instrument which crushes the arteries. Similarly, I do not see why we should do so in the pelvis; therefore I do not think there is any scope for an instrument of this kind.

Several years ago, when I was using silk as a ligature, I eagerly accepted the clamp, which was brought to us from Europe, because it seemed to eliminate from our work some of the results which follow infected ligatures. I found, however, that the convalescence which followed the use of the clamp was as protracted as that which followed an infected silk ligature, and I therefore stopped using the clamp. I then began to use catgut, and still use it, for I have found a brand which I can depend upon. The result is that I have practically eliminated vaginal hysterectomy from my work, except in those very rare instances in which there is epithelioma of the cervix, or in which there is an intra-pelvic tumor and a large vagina. I then do a vaginal operation, but always employ ligatures, ligating each vessel separately. In other words, I am still doing abdominal work. I see no use for this new instrument. Cases are few in which one cannot isolate the uterine and ovarian arteries. I prefer to tie them according to the surgical rule which is followed on the surface of the body. I long since discarded *transfixion en masse*. I have no hesitation in cutting down upon vessels in the broad ligament and tying them. I am upholding the surgical practice of tying a vessel against the practice of burning or crushing a mass of tissue and leaving it in the abdomen to necrose. The principle upon which this instrument works is fallacious, and it comes to use from the prolific ground—Europe—from which many false gods have come to us.

Another cogent argument against this instrument is that suggested by Dr. Boldt in regard to it being inapplicable to cases in which the vagina is narrow, for it would be impossible to properly seize the broad ligament at its upper extremity.

It takes more than one swallow to make a summer, and it will take more than one or two cases to make me think that here in America—where abdominal surgery originated—we should ever use the instrument which Dr. Cleveland shows us in place of the ligature—that cardinal principle of surgery.

Of course, what I have said has no bearing upon Dr. Cleveland's cases or upon his results. My remarks are based simply upon the

general rules of surgery. It is stated that this instrument has been used successfully in about fifty cases. I have used the ligature in hundreds of cases with similar success, and to cause me to discard it for this instrument the latter must be proven to give better results.

Dr. RALPH WALDO: I had not thought of speaking of this instrument, but the remarks of Dr. Grandin have rather roused me. I have done a number of hysterectomies, but I have never used clamps except in an emergency. Where I have employed clamps I have seen trouble follow. The patients have recovered, but convalescence was more prolonged than when ligatures are used. Instruments for crushing blood-vessels were used many years ago. At present, except when they pick up a small vessel and hold it until it ceases to bleed, general surgeons do not employ a crushing instrument. For instance, they do not crush the femoral or any other large artery.

I reached the operating-room at the Woman's Hospital one day just as Dr. Cleveland was finishing a case in which he had employed the angiotribe, and everybody present seemed to be surprised because there had been no bleeding. It will do no harm to try the instrument, but, personally, I am much prejudiced in favor of catgut ligatures.

Dr. JOSEPH BRETTAUER: I had the pleasure of seeing Dr. Cleveland use this instrument on one occasion, and was very favorably impressed with it. The case was one of malignant disease of the uterus, and not an especially favorable one. Dr. Boldt has asked if it would be safe to use this instrument in cases in which infiltration has gone beyond the uterus. I would answer that question by saying that in such a case no instrument would be of service. I see no reason why this instrument should not be used in abdominal work as well as in vaginal.

Dr. LEROY BROWN: Being one of the assistant-surgeons at the Woman's Hospital, and also assistant to Dr. Cleveland, it has been my privilege to see him use this instrument in a number of cases. Many questions have been asked here to-night about it, and I suppose he will answer some of them, but there are one or two which I want to answer myself. It is all very well to criticize the instrument, but "the proof of the pudding is in the eating." Look at the results obtained. Landau has reported twenty-seven cases, in which he has employed it, without a death; Tuffier has reported thirty; at the Woman's Hospital it has been used in at least fifteen cases—possibly more—in both abdominal and vaginal work, and without a death.

So far as the crushing of the tissues is concerned, there is none. Landau once cut off a portion of a broad ligament, which had been in

the grasp of the clamp, put it in alcohol, and had it examined under the microscope, and was able to demonstrate that there was no actual crushing, but simply a compression of the tissues to a paper-like thickness, with agglutination of the walls of the arteries.

In the cases in which Dr. Cleveland has used the angiotribe there has been no trouble. In the few instances in which there was some oozing, this was due to the fact that he had been obliged to apply the instrument too close to the lateral wall of the pelvis, and the tension from above and below had a tendency to tear the tissues apart after the instrument was removed.

Dr. CLEVELAND: In regard to the inquiry of Dr. Boldt, I have used the instrument in cases of cancer of the cervix which were suitable. In other words, such as those in which Jacobs' clamp or a ligature might be used. As to its use when the vagina is narrow, in two of my cases, the notes of which I did not read, I mention the fact that the vagina was very narrow, very much so in one, and stated that I believe, from my experience in this particular case, that I could use the instrument in any in which vaginal hysterectomy was indicated. It certainly seems cumbersome to look at it, but, as one uses it, one becomes accustomed to its weight. I have no trouble in managing it now, although I found it a little difficult at first.

In regard to Dr. Grandin's remarks, he and I differ radically, and I only wish I had the power to answer him in as fluent language as he has been able to command in criticising the instrument and myself. I will say this, however—I cannot conscientiously do an abdominal hysterectomy when I feel that a vaginal hysterectomy can be done and well done, for I do not believe in opening the abdomen when it can be avoided. Such is my position—it is useless to go over all the old arguments in regard to this. I have abandoned the ligature in vaginal work, because of trouble which came from the stump secondarily in many instances. In those in which I used clamps, the stump was small and came away so readily that there was rarely any secondary sepsis. When the angiotribe is used there is no secondary sepsis, and the patients suffer practically no pain after the operation. It is possible that, in the abdominal cases, the tissues of the stumps become revitalized, as they do after the use of the electric clamp.

Gonorrhœa of the External Genitals.

BY A. B. TUCKER, M.D.

(See page 642.)

DISCUSSION.

Dr. GRANDIN: I have treated many cases of gonorrhœa during the last eighteen or twenty years, but I must confess that I have not had the good fortune which Dr. Tucker has had, for I have rarely been the cases in time to be able to limit the disease to the external genitals. When I see a woman with gonorrhœa the disease usually has been going on for a week or so, and it is not to be assumed that the gonococci are going to remain on the external genitals during all that time. They are very prone to go where they are not wanted, and that very quickly, so they are generally to be found in the vagina and urethra when the patient seeks advice. Nor can I speak from experience of the use of thiol in the treatment of gonorrhœa of the external genitals. I am old-fashioned enough to cling to silver nitrate for this purpose, and I do not know of anything which will kill the gonococci more quickly. Not long ago I was told by a physician who treats the other sex that he still uses this remedy in the early stage of the disease. One point brought out by the author has impressed me strongly, and that is the habit of these germs of hiding in the ducts of Skene. A few months ago I was asked to see a woman—a recent importation from France—who complained of painful micturition and dyspareunia. She denied gonorrhœa, but upon pressing my finger along the under surface of the urethra I was able to squeeze pus out of Skene's ducts. This pus was examined under the microscope, and found to be full of gonococci. The ducts were treated and the woman was soon relieved of her symptoms. We are very apt to overlook these little glands. They are not mentioned in most text-books. In a case which I once saw the ducts were distended to such an extent that they contained a drachm of pus.

Dr. TUCKER (in closing): In reply to Dr. Grandin I would say that years ago I was as firm a believer in nitrate of silver, and I think that I have ruined the clothing of more women with it than any other man in this city. At the Northwestern Dispensary, where we see many women with gonorrhœa, I have employed nitrate of silver week after week with but little effect. I have been able to shorten by one-half the duration of the disease by using thiol.

I expressly stated in the paper that I referred only to gonorrhœa of the external genitals, and that I wished to call attention to the fact that the great focus of infection and reinfection lies in these parts. As an example, a woman, who had had gonorrhœa for two years, came

to me at the Northwestern Dispensary. I took specimens of the discharge from the cervix, vagina, urethra, and glands of the vestibule, had them examined microscopically, and gonococci were found in that taken from the latter region, but in none of the other specimens. This woman told me that she had infected her husband repeatedly since he first infected her, two years previously.

Official Transactions.

JOSEPH BRETTAUER, *Secretary*.

TRANSACTIONS OF THE WOMAN'S HOSPITAL SOCIETY.

Stated Meeting, March 21, 1899.

The *President*, GEORGE TUCKER HARRISON, M.D., in the Chair.

Chronic Nephritis on Left Side; Acute Nephritis on Right Side; Stone impacted in Left Ureter; Ruptured Ectopic Pregnancy and impacted Gall-Stones: Caeliotomy, Exploratory Appendectomy, Cholecystotomy, Ureterotomy, Nephrotomy, successively.

Dr. PAUL F. MUNDÉ: The patient who presented this peculiar combination of diseases was first seen by me in consultation at my office about ten weeks ago, at which time no symptoms of ectopic gestation were present. She had not missed a period, there had been no discharge of membranes, and she had had no attacks of pain. A small soft, irregular mass could be felt in Douglas' pouch. Three weeks later I saw her with her physician at her house and found decided symptoms of ectopic gestation which had not been present before. I examined her under anæsthesia and discovered that the mass in the pelvis now extended above the brim of the pelvis.

I made a diagnosis of intrapelvic effusion of blood, probably due to rupture of an ectopic gestation sac, and had her removed to Mt. Sinai as a private patient. Upon the following day I opened the abdomen and found a ruptured tubal pregnancy. The ectopic sac was removed and the patient did well for a week when she suddenly developed a temperature of 102° for which there seemed to be no cause. Upon making a vaginal examination a hard mass about an inch long and half an inch wide was felt on one side. It was immovable, not painful,

and could be nothing but a stone impacted in the ureter. The urine which was normal in quantity contained some pus, but there were no symptoms of acute cystitis, and I was at a loss to account for the temperature. As the stone in the ureter did not seem to interfere with the discharge of urine, nothing was done at that time, but I blame myself now for not having cut down upon it sooner. The condition of the patient remained unchanged for about a week when she was suddenly seized with a very severe pain in the right iliac region, between the ilium and the kidney. Percussion showed dullness at that spot and, after consulting with the patient's family physician, I decided to open the abdomen on that side under the supposition that the pain and dullness were due to appendicitis. With the exception of a slightly enlarged kidney, everything was found normal until the gall-bladder was reached. This was enormously distended and in one spot almost gangrenous, and to it was attributed the pain from which the patient suffered. I, therefore, closed the wound in the right flank and made another incision over the gall-bladder, removed the numerous stones which it contained, sewed the sac to the abdominal incision, and put in a drain. After this procedure the temperature dropped a little and for a few days the patient improved, after which the temperature again went up. At the end of a week (just three weeks after the first operation) it was decided that something more must be done. The temperature ranged from 104 to 105, the pulse was rapid, and the amount of pus in the urine had increased. Dr. Gerster was called in consultation and he advised that one or both kidneys be opened as there was probably a pyelonephrosis present. I called his attention to the stone in the ureter and it was decided to remove that first, which I did, without difficulty, through an incision in the anterior vaginal vault. Its removal was followed by the escape of a torrent of pus and urine from the ureter. A catheter was passed into the ureter up to the pelvis of the kidney for the purpose of draining it. The temperature subsided somewhat after this operation, although a rise would follow occlusion of the drainage tube. In spite of all this the patient did not improve; on the contrary her condition became worse and worse, and Dr. McBurney was called in consultation. He advised opening the left kidney in order to ascertain whether there was a second stone there. However, I first decided to aspirate the right kidney, and withdrew purulent urine, on opening the kidney. No stone was found. There was first a gush of purulent urine and then profuse bleeding, and I packed the kidney full of gauze to arrest it. At this stage the patient's condition was such that infusion was again employed—she had been infused previous to

the operation. The other kidney was then aspirated, but as no pus was found, nothing more was done. The patient died four hours after the operation.

The interesting feature of the case is the number of operations which were performed upon the patient. The cause of death was a double interstitial nephritis with calculus in the left kidney which had evidently existed long before any symptoms of it developed. The rupture of the ectopic gestation sac with the anæsthesia, operation, etc., caused the other conditions to become prominent.

DISCUSSION.

Dr. G. H. MALLETT: I would like to ask Dr. Mundé how far the ectopic gestation had advanced when rupture took place.

Dr. MUNDÉ: It is impossible to say. The patient had not missed a period, and from the appearance of the specimen it could not be determined whether it was a tubal abortion or an intraligamentous hæmatoma. The broad ligament was torn and the blood-clot, which was very large, was partly intraperitonæal. There was, however, no question of its being an ectopic pregnancy.

Impacted Pessary.

Dr. MUNDÉ: About a week ago a woman, sixty years of age, was admitted to my service at Mt. Sinai Hospital with the statement that she had an impacted pessary. This proved to be the case. The pessary had been introduced by a midwife, two years previously, and had never been attended to since. It gave rise to a discharge, a great deal of pain, and interfered with the functions of the bowel and bladder—so much so that incontinence of urine had resulted, and this had led the woman to apply for medical attendance. The pessary was so firmly impacted that I could not withdraw it with my fingers, but I was able, finally, to drag it out by passing through it a piece of strong cloth folded narrow. It was an old-fashioned, thick ring of hard rubber. The woman also had a left inguinal hernia, the largest I ever saw in a woman. The strangest feature of the case is the fact that she had an ecchymosis of the whole left side of the abdomen and thorax up to the axilla. This was apparently due to interference with the circulation of that side caused by the pressure of the impacted pessary.

Some years ago, while lecturing at Dartmouth College, a woman was brought to me for supposed cancer of the uterus. I found a large

Hodge pessary in the vagina, which had been placed there seven years before without the patient's knowledge. She had consulted a physician who made an examination only, as she thought, and who told her to return later. This she failed to do. The pessary was so firmly imbedded in the tissues that I was obliged to cut it out. Years ago I saw a case in which a neglected Zwanck pessary had made its way into the bladder, causing an enormous vesico-vaginal fistula.

DISCUSSION.

Dr. GEO. C. FREEBORN: The ecchymosis in the first case was no doubt due to some interference with the circulation, but it would be difficult to say just what vessels were interfered with.

Intraligamentous Ovarian Cyst: Panhysterectomy.

Dr. MUNDÉ: The patient from whom this cyst was removed came under my observation at Mt. Sinai Hospital. She was forty-six years of age and had not menstruated for six years, during which time the tumor had begun to grow. The tumor was large, reaching up to the umbilicus, and appeared to be so intimately connected with the uterus that I made a diagnosis of myoma uteri. No fluctuation could be detected. Pain was the only symptom complained of, and for the relief of this the patient insisted upon operation. Upon opening the abdomen I at once discovered that my diagnosis had been wrong, and that the tumor was an ovarian cyst, which, however, was very hard and tense. It sprang from the right ovary, and had dissected up the broad ligament on that side, and also the peritonæum behind the uterus, in such a way that the cæcum and appendix vermiformis were crowded over to the left of the median line, as were also the meso-colon and the right ureter. The appendix was adherent to the posterior surface of the tumor and the large intestine to its whole lower surface. With great difficulty I freed the intestinal adhesions, tied off the appendix, and removed it, and, finally, in order to make a clean wound, I removed the uterus, with the cyst; in fact, did a supravaginal hysterectomy. As much raw surface which could not be covered over was left in the retro-peritonæal cavity, it seemed best to make some provision for drainage, therefore I thrust a pair of forceps through the cellular tissue on the right side, and passed the ends of the gauze packing down into the vagina. This gauze was removed at the end of twenty-four hours.

The patient had a slight attack of enteritis and a pneumonia—the latter probably due to the ether—but is now doing well.

The interesting points are the difficulty in making the diagnosis and the necessity for removing the uterus in order to make a clean wound, both common occurrences. Hereafter, instead of attempting to remove intraligamentous cysts through the abdomen, I think I will drain them from below, pack the cyst-sac and leave it to contract. That is, where the cyst is chiefly intrapelvic and not very large. When a cyst is low down in the pelvis, it is much safer to operate from below. My rule regarding pelvic tumors is this: When fluid accumulations are to be evacuated, I operate from below. When I wish to remove an ovary or tube, as a rule I prefer to do it from above, because I can see better what I am doing. If the uterus alone is to be removed, I would do it from below. I see that some operators are now expressing themselves in favor of doing abdominal hysterectomy, instead of the vaginal operation, in cases of malignant disease of the cervix. As the disease is sure to recur, unless confined to the body of the uterus, it seems to me to make but little difference which method is employed.

DISCUSSION.

Dr. CLEMENT CLEVELAND: I would like to ask Dr. Mundé what he means by saying that he made an opening at the side of the uterus through the cellular tissue, and why he did not drain in the usual way through the posterior cul-de-sac.

Dr. MUNDÉ: The cyst had developed to the right of the broad ligament and had dissected up the peritonæum below the cæcum and appendix. The ureter and cul-de-sac were pushed over to the left. As the locality to be drained was situated posterior to Douglas' pouch and behind the peritonæum, it would have done no good to have drained through that pouch; therefore, I passed the forceps through the cellular tissue into the vagina. I have made up my mind to drain through a counter-opening in Douglas' pouch in all cases of supravaginal abdominal hysterectomy, if many adhesions have been severed or much raw surface exposed. Of course, in this case, had I removed the cervix there would have been no need to make the opening through the cellular tissue, but there would not have been the proper drainage through the median line for the right iliac fossa.

I make it a rule to evacuate intraligamentous cysts by the vagina when they are low down and easily reached. I do not say that I would remove them by that route, for that is sometimes not altogether safe.

In attempting to do this once a loop of intestine came down and narrowly escaped being injured.

Dr. CLEVELAND: I have frequently removed these cysts from below and have never had serious trouble because of intestines coming down and getting in the way. If a loop of intestine does come down, I simply have the table tipped, as in the Trendelenberg position, and replace the gut. I do not think I would attempt to remove a large multilocular cyst through the vagina, although I believe this has been done. My own operating-table I have had so modified that it is entirely in the control of the person administering the anæsthetic, and can be tipped in any desired position.

Complete Procidentia Uteri.

Dr. MUNDÉ: A fourth case is a rather unusual one on account of the youth of the patient. She was a married woman, twenty-three years of age, and had had three children, and was admitted to Mt. Sinai Hospital with a complete prolapse of the uterus, which had followed the birth of her last child. The uterus was not especially enlarged—it measured only three inches—was entirely outside the body, and the vagina, bladder, and rectum were inverted proportionately. The posterior surface of the prolapsed mass was ulcerated and the whole was œdematous. No special difficulty was experienced in replacing the uterus by manipulation. Had the woman been forty instead of twenty-three, I would not have hesitated to do a hysterectomy, but she was so young that I did not feel justified in removing the uterus. Therefore, I performed a number of operations in order to effect a cure. I first did a bilateral plastic operation upon the vaginal wall, reinverting the vagina as I tied the sutures from the cervix inward. I then opened the abdomen in the linea alba, shortened the round ligaments, which were very long, and doubling them upon themselves; and then performed a ventral fixation by passing three double silkworm-gut sutures through the fundus, and, lastly, a Hegar operation upon the posterior vaginal wall and vaginal outlet. This was three weeks ago. The patient is not yet up, but I expect to get a permanent result if the patient does not again become pregnant.

During the past winter I saw a young girl—a virgin—with complete prolapse of the vagina and uterus. There was great relaxation of the vagina, but the uterus was naturally very small. I did a perinæorrhaphy, an anterior and posterior colporrhaphy, and an Alexander operation. I did not perform ventral fixation for the reason that

the vagina was very short congenitally. I recently saw a case reported in the *Lancet*, in which hysterorrhaphy was done on a girl of sixteen. Some years ago I saw a case of forcible eversion of the uterus and vagina in a young virgin, caused, it was said, by lifting a heavy tub of wet clothes. I reduced the eversion gradually with hot applications and an Esmarch bandage. As a rule we do not see this condition in young women. The patients are generally old women, who have had a number of children and whose tissues are in a condition of general relaxation. ,

DISCUSSION.

Dr. CLEVELAND: I have tried a great many methods in the way of plastic operations for the cure of procidentia, and have always failed to secure satisfactory and permanent results, except where I have made use of the so-called La Fort operation.

In performing this operation I first mark out, on the anterior and posterior walls, rectangles of the same size. These rectangles are not entirely denuded at once, but in small transverse sections, beginning near the cervix and gradually working down toward the outlet, as the work progresses. In bringing these surfaces together I make use of a continuous suture of chromicized catgut. This operation is, of course, supplemented by perineorrhaphy. The large majority of my patients requiring this operation have been women advanced in life, from sixty to seventy and beyond. In young married women rectangles are denuded chiefly to one side of the median line, so as to leave a larger vaginal pouch on one side. When performed in this way I have found it just as effectual.

Dr. MUNDÉ: I have not done the La Fort operation. I tried it once, and did not make a success of it, although I finally got a very good result in the case by another method. It seems to me that the La Fort operation unfits a woman for future child-bearing, and for this reason I do not employ it. In cases of procidentia I have obtained good results by a combination of the four operations mentioned. I do not perform ventral fixation, however, unless the patient has an abdominal wall sufficiently firm to hold the uterus up in position. The ideal operation for prolapsus uteri et vaginæ, which restores the organs to their normal position and functions, has still to be devised.

Ruptured Ectopic Gestation.

Dr. GEORGE H. MALLETT: About a month ago I was called to see

the patient from whom this specimen was removed. The messenger came while I was at dinner, and did not intimate that there was any great necessity for haste. Fifteen minutes later another messenger came, summoning me immediately. The patient was a young married woman, twenty-six years of age, who had never been pregnant. Menstruation had always been irregular and painful, the intervals varying from twenty to thirty-five days, and the duration of the flow from three to six days. The flow was usually profuse. About a year previously I had dilated the cervix and curetted to relieve the stenosis which I considered to be one of the causes of the dysmenorrhœa. The operation was followed by marked benefit and the subsequent periods were almost painless, until four months ago, when the flow was attended by intense suffering and the passage of clots. I was called to see her at that time, and prescribed the so-called sedatives which are recommended in such cases. These failed to give relief, so I ordered a copious hot douche, which was given, and resulted in the discharge of a large clot and immediate relief from pain. The next two periods were passed with greater comfort than ever before.

I found the patient in bed, with a rather pale and anxious face. Her pulse was rapid, about 115 or 120, and rather feeble. She said that she was menstruating, and that she had been suffering more pain than ever before. She was just four days over her time, and had been sitting at her dresser, arranging her hair, when the flow began, with intense pain on the left. In reply to my questions, she stated that she was suffering greatly and that the pain was most intense under the left scapula. She was distended with gas, and thought she would be relieved if she could vomit. She would not entertain the idea that she was pregnant, but thought that the suffering was due to some tainted meat which she had eaten on the previous day.

Upon vaginal examination the uterus did not seem enlarged, nor was there any discoloration of the vagina to be seen. In the left fornix a mass the size of the first joint of one's thumb was felt. This I took for the ovary, which was about that size when I examined her some months previously. There was nothing to be felt in the cul-de-sac. The vaginal examination was difficult, because of the intense pain which the patient was suffering, and because of the abdominal distension. A moderate amount of blood was flowing from the uterus but no clots or shreds of membrane were to be seen.

A consulting gynecologist who saw the patient found nothing in addition to what I have mentioned.

The patient claimed to have an idiosyncrasy for opium, but the pain

was so excruciating that she permitted a hypodermic, morphia, gr. $\frac{1}{60}$, to be given. No relief followed, and she refused to have another. Suppositories were then given, but without result. Strychnia sulphate, gr. $\frac{1}{60}$, and then gr. $\frac{1}{30}$, was given at frequent intervals hypodermically. External applications of heat were also employed. To my surprise she died at three o'clock in the morning. She had complained of cramps in the intestines, but had not vomited until mustard was administered, nor had her bowels moved until an enæma had been given. Autopsy showed the abdomen full of blood and absolutely no lesion, except that which is contained in the bottle before you.

If any of the members present wishes that he had seen the case and had been given a chance to save a life, and if he thinks that the diagnosis was easy, and the indication to operate readily determined, then my descriptive powers are at fault. Two consultants, with some reputation as diagnosticians, expressed the opinion that after the first hour the patient could hardly have survived an operation, and before that time there was not enough evidence to justify a laparotomy.

To show that these cases are not always easy to diagnosticate, I quote from Howard Kelly's recent work on "Operative Gynecology," as follows:

"In a case of my own of right isthmal pregnancy, the patient had not even missed a menstrual period, when she was suddenly taken with violent pains, interpreted as colic from indigestion, and bled to death in two days from a little mass not larger than a bean, about 1×2 centimeters in size, ruptured on the dorsal surface."

The interesting features in my case are the early rupture, the absence of symptoms of pregnancy, the position of the rupture in the tube, the inability to feel blood in the cul-de-sac, and the speedy fatal result.

The only case I can find in the literature in which death followed such a minute rupture is that mentioned by Dr. Kelly in his book. In that case the patient died about eight and a half hours after rupture occurred. In my case it took place about eight hours after. The specimen shows the end of the tube closed, so the case was not one of tubal abortion. Hæmorrhage took place through the minute pin-hole rupture.

DISCUSSION.

Dr. FREEBORN: It occurred to me that perhaps this was not really a case of ruptured ectopic gestation, but since I have examined the specimen closely I feel satisfied that it is. Many of the specimens which are subjected to us are not extra-uterine pregnancies at all.

THE PRESIDENT: I once saw a case in which the patient bled to death in six hours after rupture of an ectopic-gestation sac. She had been perfectly well late in the afternoon, and was practically moribund when I saw her at night.

Dr. P. CHAMBERS: I should think that infusion would be of service in such cases. I saw it employed in a case in which the woman was almost dead, and immediate improvement and recovery followed.

Ovarian Cyst.

Dr. NICOLL: The particle of this ovarian cyst was secured by means of the new French instrument—Tuffier's angiotribe. This instrument has proven very satisfactory in the operations at the Woman's Hospital. I have employed it in two hysterectomies, and no hæmorrhage has followed. I have also removed the tubes and ovaries through the abdomen with it, in a number of cases with absolutely perfect results. It saves time, and the patients suffer much less pain than they do when ligatures are used. The modifications of Tuffier's instrument, which Dr. Bissell is at work upon, promise to be of value.

DISCUSSION.

Dr. CHAMBERS: I have employed this instrument, and in one case in which I removed the tubes and ovaries and did a hysterorrhaphy secondary hæmorrhage followed two hours after the operation, and but for immediate action I would have lost my patient. I have been told that the instrument was defective. Whether the hæmorrhage was due to this or to the fact that ventral fixation was done, and the tumors thereby put upon too great a tension, I am at a loss to say. I would not condemn the instrument because of this unfortunate occurrence. On the contrary, I have been much impressed with it, and in cases in which it is difficult to isolate the blood-vessels, as in vaginal operations, I would not hesitate to use it again. At the same time, I have come to the conclusion that when I can see the vessels, I would rather use ligatures, and I shall employ these hereafter in abdominal work.

Dr. CLEVELAND: I am afraid I am responsible for the hæmorrhage which occurred in Dr. Chambers' case, for the reason that I had the instrument made by Stohlman, Pfarre & Co. The manager there told me he had a man who could imitate instruments perfectly, and I suppose I trusted him too much. The instrument he made differed from the French angiotribe in many important details. For instance, the

groove in the center of each blade was not perfect—it was too deep in some places and not deep enough in others, and the edges of these grooves were sharp, instead of being beveled as they are in the French instrument. It is possible, however, that hæmorrhage occurred because Dr. Chambers failed to leave a little stump of tissue on the outside of the clamp. It is very important to do this, for in this way another barrier against bleeding is formed. I have seen oozing follow the use of this instrument in several cases in which this little stump had not been left. Stohlman, Pfarre & Co. have now succeeded in producing a perfect instrument.

I prefer the angiotribe to the electric clamp, although I have used the latter a great deal, and still use it. Yesterday, in removing pus-tubes, I used the angiotribe on the uterine arteries and the electric clamp on the ovarian arteries. The one advantage which the electric clamp possesses is that it completely shuts off the lymphatics and leaves the stump absolutely sterile. Before I used the angiotribe I thought the electric clamp left nothing to be wished for, and I still have the highest opinion of it, but I prefer the angiotribe for the most cases. For one thing, there is no current to bother with in employing it. If I were to be deprived of one or the other, I would prefer to keep the angiotribe.

ABSTRACTS.

This Department is in Charge of the Following Staff of Sub-Editors:
DR. T. W. CLEVELAND, DR. G. H. MALLETT, DR. A. D. CHAFFEE.

GYNÆCOLOGY.

UNITED STATES.

Some Pathologic Conditions of the Ovaries Which cause Great Pain.

GEORGE HALLEY (*The Jour. of the Amer. Med. Assn.*, Apr. 29, 1899) says that patients often complain of excessive pains in the lower part of the abdomen. The pain is not confined to the pelvis, but radiates upward and backward, following a line about two inches inside the crest of the ilium. Sometimes the pain is on the outside or back of the thigh; sometimes it is confined to the lower portion of the iliac fossa and upper two inches of the thigh. It is usually of a dull, aching, persistent character, increased by motion or pressure. It varies in its relation to the menstrual periods. The usual symptoms occurring with this condition are constipation, painful or difficult micturition, nervousness, sleeplessness and prostration. While cystic degeneration of the ovary is often the cause of this train of symptoms, in many cases it is due to a varicosed condition of the pampiniform plexus. The veins composing the plexus are sometimes as large as a lead pencil and tortuous, with the walls enormously thickened. This condition can usually be differentiated from cystic ovary. In the latter case the ovary is excessively tender and the pain is most severe during the menstrual period, while in the former condition the greatest freedom from pain is after the menstrual flow has been fully established and the ovary is free from tenderness. In cystic ovary menstruation is irregular, the periods being much further apart than normal, while in the varicosed condition of the plexus the flow often occurs twice in a month, though in both conditions there may be normal menstruation. Hot douches aggravate all the symptoms. The writer's treatment is to ligate both ends of the vein of this plexus with some good, strong material and cut out or ligate and cut out, veins, just as is done in most cases for the radical cure of varicocele. The ligation must be very thorough, as the artery will produce a hyperæmic condition of the

ovary and there is danger of hæmorrhage from the ends of the cut vessels.

The reason that operations on the ovary often fail to relieve pain is owing to the fact that the plexus, and not the ovary, was diseased. Even where the ovary is cystic it is possible that ligation of the veins might be beneficial, if not a cure, and the woman would still be sexually perfect.

CANADA.

Vaginal Cœliotomy with Report of Cases (Author's Abstract).

A. LAPHORN SMITH says that although his experience has been limited to ten cases, yet these have been such instructive ones that he has been enabled to arrive at the following definite conclusions as to the relative merits of and indications for vaginal cœliotomy:

1. Vaginal cœliotomy is indicated in retroversion with fixation, in minor diseases of the ovaries and tubes and in small fibroid tumors of the uterus. But in the author's experience the vaginal method of freeing the retroverted adherent uterus is on the average more difficult than the abdominal method; and the vaginal fixation is not so reliable in curing the retroversion and prolapse as is ventrofixation.

2. If the uterus be movable and there are no adhesions to be broken up, one is not justified in opening the peritonæal cavity either by the abdomen or the vagina in order to shorten the round ligaments. In such cases Alexander's operation is easy, quick, safe and more reliable. (The author has had no failures in his last hundred cases.)

3. For the removal of pus tubes the operation by the vagina is more difficult than by the abdomen in all cases excepting those in which the uterus is removed at the same time. When the uterus is split in half and each half is removed with its corresponding ovary and tube, and when clamps are used, the vaginal operation is easier than the abdominal in which ligatures are employed. The vaginal operation is a little safer on account of the drainage which it affords, but on the other hand it offers more risk of injuring the ureter. The author is opposed to the removal of the uterus even when both ovaries and tubes have been removed, owing to the bad moral and physical results, and he is opposed to the use of clamps as compared with ligatures because, although easier and quicker, the clamps prolong the convalescence, owing to the bruising of the nerves in the broad ligaments.

4. For the removal of chronically inflamed ovaries and tubes vagi-

nal cœliotomy has the following decided advantages: (a) It is less dangerous because the intestines are not exposed to the air or to bruising by the hands or infection through diseased tissues passing over them so much as when the latter are removed by the abdomen. (b) vaginal cœliotomy is less painful, the incision in the vagina causing almost no pain; while the abdominal incision and stitching are exceedingly painful; in vaginal cœliotomy morphine is rarely required; in abdominal cœliotomy it is cruel to deprive the patient of it, although we know that her chances of recovery are lessened and her convalescence is prolonged by its use. (c) There is no tell-tale scar after vaginal cœliotomy, which is sometimes a matter of great moment to young single women who intend to marry. The presence of the scar has to be explained and the patient is suspected of having been unfitted for marriage by the removal of both ovaries, when in reality one or both ovaries remain. (d) The danger of hernia, although the author has had no case of hernia during the last three years, owing to his method of suturing and leaving in the silkworm gut either permanently or at least a month, and he considers this accident entirely preventable, yet for those who meet with it its possibility should have great weight in balancing the merits of the two operations. There is no hernia after vaginal cœliotomy.

5. Much good, conservative work on the ovaries and tubes, and even on the uterus, can be performed by vaginal cœliotomy with almost no risk or pain to the patient. The uterus and appendages can be brought out at the vulva through an opening in the anterior vaginal wall, and cysts can be excised or burned out; one-half of one ovary can be amputated and the remaining bivalvular flaps neatly brought together with fine silk or catgut; the closed tubes can be opened or a piece of the pavilion removed and a probe passed into the uterus and the mucous and peritonæal layers of the remainder of the tube brought together with interrupted catgut sutures; and small fibroids not larger than the normal uterus itself can be cut out and the hole in the wall of the uterus closed with two or three rows of fine sutures. But it is very dangerous to open up closed tubes as long as there is any active inflammation or infection going on, because by so doing we break down the wall of defence made by nature around the infected tubes to save the general peritonæal cavity from invasion.

6. Tubal pregnancy before rupture and not later than the sixth or eighth week can be readily removed by vaginal cœliotomy. The author had one successful case, compared with twelve successful cases by the abdomen. But vaginal cœliotomy is contra-indicated when the preg-

nancy has advanced to twelve weeks or has ruptured into the abdomen. In several of the author's cases the vermiform appendix was diseased and adherent to the tube, for the removal of which abdominal cœliotomy was performed. In several others of the author's cases the abdomen was full of clots as high up as the liver and the fœtus was floating among the bowels higher than the umbilicus. These cases could not have been successfully operated upon by the vagina.

7. In general terms, all cases in which the trouble is small in size and located low down can and should be operated upon by vaginal cœliotomy, while everything large and located high up should be reserved for abdominal section.

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